

CENSUS 1951

WEST BENGAL



DISTRICT HANDBOOKS

JALPAIGURI

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THE CENSUS PUBLICATIONS

THE CENSUS PUBLICATIONS FOR WEST BENGAL, SIKKIM AND CHANDERNAGORE will consist of the following volumes. All volumes will be of uniform size, demy quarto $8\frac{3}{4}'' \times 11\frac{1}{4}''$:—

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PART IB—VITAL STATISTICS, WEST BENGAL, 1941-50 by A. Mitra and P. G. Choudhury, containing a Preface, 60 tables, and several appendices. 75 pages.

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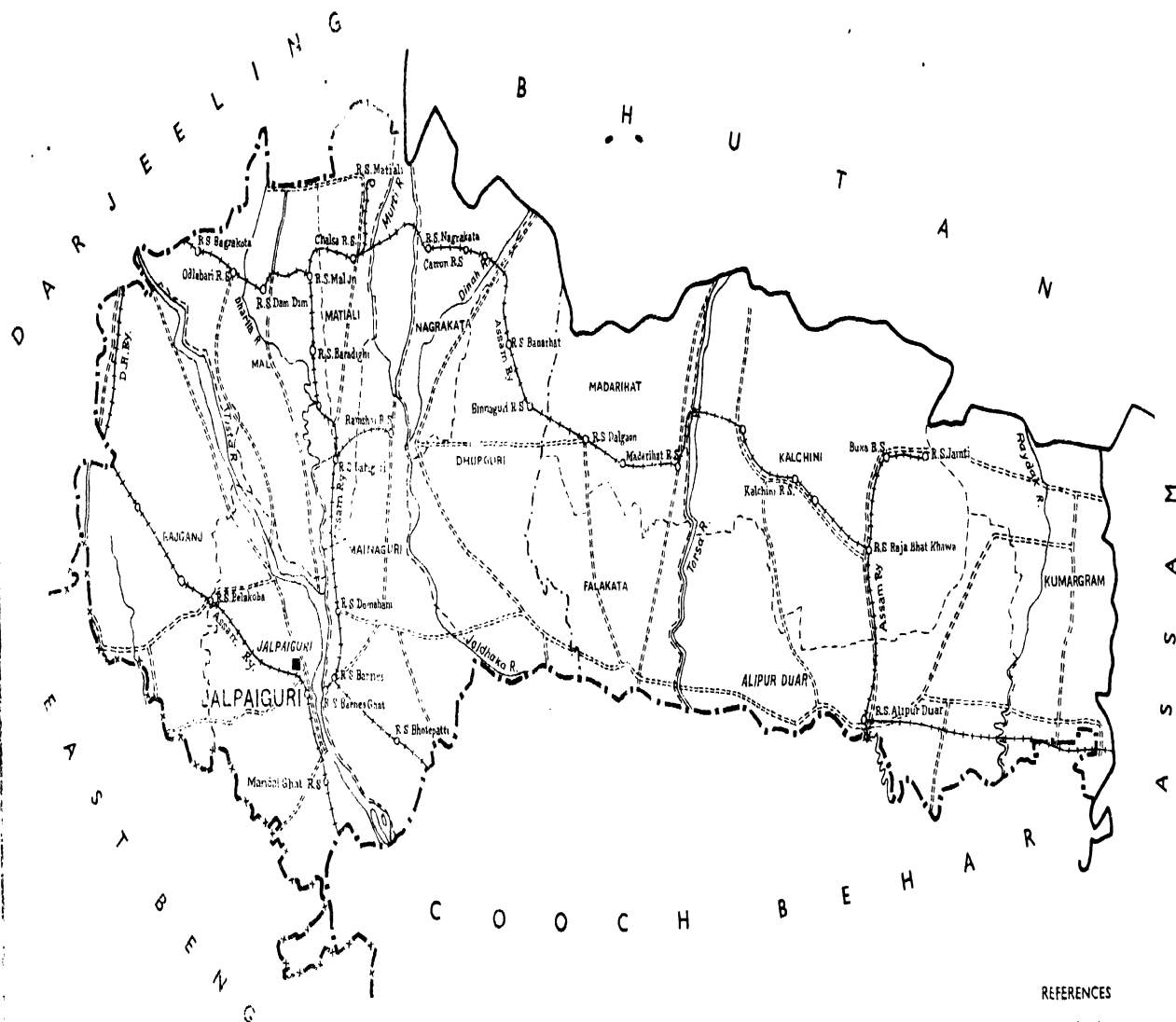
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DISTRICT JALPAIGURI

DISTRICT JALPAIGURI



REFERENCES

Boundary: International . ~~xxxxxx~~

33 . State . . .

" : District " "

* Sub-division ..

Police Station _____

Headquarters, District .. ■

Name : Sub-division .. JALPAIGURI

„ : Police Station KALCHINI

Road : Metalled ..

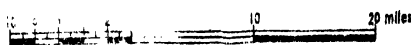
„ Unmetalled . = = = =

Railways with Station ..

Chits have not been shown

The boundary between West Bengal & East Bengal
is approximate & must not be taken as authoritative

Scale 1 inch to 8 miles



INTRODUCING THE DISTRICT

THE DISTRICT of Jalpaiguri has two subdivisions—Sadar or Jalpaiguri and Alipur Duars, with their headquarters at Jalpaiguri and Alipur Duar with the district headquarters at Jalpaiguri. The Sadar subdivision covers the police stations of Jalpaiguri, * Rajganj, Mainaguri, Nagrakata, Dhupguri, Mal and Matiali; the Alipur Duars subdivision consists of the thanas of Madarihat, Falakata, Kalchini, Alipur Duars and Kumargram. There is a total of 801 mauzas borne on the Jurisdiction Lists of the district, of which 24 mauzas are uninhabited and 776 are inhabited rural mauzas. 5 mauzas are included in towns. Part of each of 4 mauzas is in rural areas, and these 4 mauzas are, therefore, accounted in the total number of inhabited villages and excluded from the total number of mauzas included in towns. The town of Jalpaiguri is in Jalpaiguri thana and the town of Alipur Duar in Alipur Duars thana. Jalpaiguri is the more populous town with a population in 1951 of 41,259. Alipur Duar is a much smaller subdivisional town with a population of 24,886. Alipur Duar is a non-municipal area, treated as a town only in the Census of 1951. Throughout this book a village has been equated to a cadastrally surveyed mauza, bearing a Jurisdiction List number.

In 1765 the Diwani of Bengal, Bihar and Orissa was conferred on the East India Company by Shah Alam, Emperor of Delhi, and it was not long before the Company entered into relations with Cooch Behar. The aggressions of the Bhutias, encouraged by the weak and disturbed state of the plains States, had been going on in increasing degree ever since the beginning of the 18th century, and by 1765 Bhutan was supreme in Cooch Behar and nothing could be done without the sanction of her representative. In 1772 the Raja of Cooch Behar, unable to support this intolerable state of affairs any longer, appealed to the Company, and in 1773 a treaty was concluded whereby Cooch Behar became a Feudatory State of the English, and the latter immediately ejected the Bhutia forces from Cooch Behar.

The following extract from a letter dated 1st December, 1772, from the President and Council of Revenue, Fort William, to 'P.M. Dacres, Esq. & Gentlemen of the Committee of Circuit', will be of great interest:

We approve *à la* of the nomination you have made of Hurry Ram Mullick to be Dewan of the Dacca District & of Jeet Sing at Luckypore.—As you are now on your Way to Rungpore We think it proper to advise you that we have lately fitted out an Expedition consisting of four Companies of Brigade Seapoys from the 6th Battalion under the Command of Capt Jones to free the Zemindaree of Cooch Be-

har from the Ravages & Invasi [. .] of the Bountanners & reduced that Country to its former Dependence on the Government of Bengal. We desire you will take this subject under your Consideration & give us your Opinion upon the further Steps which it may be necessary to take for bringing it to a speedy & successful Issue—Such as you shall judge to be immediately requisite We desire you will Cause to be carried into Execution.

The following further letter from P.M. Dacres to Charles Purling, Collector of Rungpore, dated 16th December, 1772, will illustrate how the instruction was passed on:

The Honble the Presidt & Council having advis'd us that they have lately fitted out an Expedition to free the Zemindary of Cooch Behar from the Ravages & Invasion of the Bountanners & reduce [.] that Country to its former Dependence on the Government of Bengal & having required our Opinion on the further [. .] ps it may be necessary to take for bringing this Object to a speedy & successful issue, We desire You will immediately lay before us the present state of this Expedition, accompanied with such Letters as You may have address'd [. .] to the Honble the Presidt & Council or to the Governor & the Instructions which you may have received from them or him on this Subject.

A treaty was made by the Company with Bhutan in 1774 and the Raikat of the time, Darpa Deo, who was, according to Dr. Buchanan Hamilton, at the bottom of the whole of the events that led up to these troubles, was confirmed in such parts of Batrishazari or Baikunthapur as had not been already ceded to Bhutan; but a revenue was assessed on his lands and he was placed on exactly the same footing as an ordinary zemindar, while being deprived of all authority in Cooch Behar proper.

The following is a copy of the articles of treaty reproduced from p. 31 of Proceedings of the Committee of Circuit at Rangpur, Dinajpur, Purnea and Rajmahal:

Articles of Treaty between the Honble English East India Company & Durrindmarain Rajah of Cooch Beyhar.

Durrindmarain Raja [.] of Cuch Beyhar having represented to the Honble the President & Council of being harrassed by the neighbouring independant Rajahs who are in League to depose him, the Honble the Presidt & Council fro [.] a Love of Justice and a desire of assisting the distrest, have agr [. . .] to send a force consisting of 4 Companies of Seapoys and a Field piece for the protection of the said Rajah & his Country aga [.] n [. .] his Enemies, And, the following Conditions are mutually agreed on—

1. That the said Rajah will immediately pay into the Hands of the Collector of Rungpore fifty thousand Rs to Defray the Expenses of the force sent to assist him.—

2d That if more than 50000 Rs are expended the Rajah will make it good to the Honble the English

East India Company ; but in case any part of it remains unexpended that it be delivered back

3d That, the Rajah will acknowledge Subjection to the English East India Company upon his Country being cleared of his Enemies & will allow the Cooch Behar Country to be annexed to the province of Bengal—

4 That the Rajah further agrees to make over to the English East India Company one half of the annual Revenue of Cooch Behar for ever—

5 That, the other Moiety shall remain to the Rajah and his Heirs for ever provided he is firm in his Allegiance to the Honble United East India Company.—

6th That, in Order to ascertain the true value of the Cooch Behar Country, the Rajah will deliver a fair Mustahood of his District into the Hands of such Person, as the Honble the President & Council of Calcutta shall think proper to depute for that purpose upon which valuation the annual Malguzzary which the Rajah is to pay shall be establish'd—

7th That the Amount of the Malguzzary settled by such person [] as the Honble the East India Company shall depute shall be perpetual—

8th That, the Honble English East India Company shall always assist the said Rajah with a force when he has occasion for it for the defence of the Country the Rajah bearing the Expence []

9th That this Treaty shall remain in force for the Space of two Years or till such Time as Advices may be recd from [] Honble the Court of Directors empowering the Presidt & Council to ratify the same—

This Treaty signed sealed & concluded by the Honble the President & Council at Fort William the Day of [] 177 on the one Part [] & by Durrindinarain Rajah of Cooch Behar at [] the on the other Part—

It is interesting to note that Darpa, in a petition of remonstrance against the heavy revenue assessed on him, which he addressed in 1777 to the Collector of Rangpur, calls himself Raja of Batrishazari, and it seems he was popularly called Raja.

The Bhutias did not rest satisfied with the terms of the treaty of 1774, and soon set to work to wrest still more land from the unfortunate zemindars of Baikunthapur, whose interests suffered from the fact that the Government being desirous of reaching Tibet through Bhutan, were apparently more anxious to carry out this policy and conciliate Bhutan than to scrutinise very carefully the merits of either party's claims. The result was that by persistent application on the part of Deb Raja to the Governor-General, the Bhutias obtained a large tract of Baikunthapur lying east of the Teesta, containing the celebrated temple of Siva at Jalpesh, and also a village west of the Teesta, named Ambari Falakata, right in the centre of the zemindari. In the general confusion that preceded the English conquests and in the course of desultory warfare between the hillmen and the petty States of the plains, the

line of country occupied by the former had no doubt continually varied, and probably at some time or other the Bhutias had been in possession of the territory they claimed; but it is, on the other hand, clear that the Bhutias had not been in possession of the tracts in question immediately before their war with the English. Charles Purling writes in 1790, some years after the lands had been given up: "I was at Rangpur both before and since the Cooch Behar district was brought under the Company's protection, and I never, till now, heard of any claim of the Bhutias upon Jalpesh and Falacotta. Jalpesh is a pagoda of Hindu worship with which Bhutias can have nothing to do." The Government orders directing the transfer were first given in 1779, and were repeated from time to time, as the efforts of the Baikunthapur Raja interposed delays.

When Baikunthapur was annexed in 1772, the zemindar paid an annual tribute of Rs.10,000, but after an enquiry was made into the resources of the country in 1774, the revenue payable was increased to Rs. 25,000, which was further increased to Rs. 30,000 in the following year. This was maintained in spite of the Raja's energetic remonstrances. In 1779 occurred what Glazier describes as the "fictitious rebellion of Baikunthapur." Balances had been allowed to accrue for three years, and in 1779 a sezawal was appointed to collect the revenues from the country direct. The sezawal sent in report that the zemindar had employed decoits to murder him. He retired to Narea in Pargana Boda, but his people were attacked, one barkandaz was murdered, others were wounded, and some thrown into the river. The Collector of Rangpur took vigorous measures, and issued a proclamation, threatening the zemindar that if he did not deliver himself up within fifteen days, he would be for ever excluded from the possession of his land, which should be made over to his brother. The Raja was caught without any difficulty and brought to Rangpur. Two amins were sent out to enquire into the matter, and they reported that the sezawal himself had sent decoits into Baikunthapur who had plundered the country. The zemindar was released and the sezawal was made over to the fouzdar for trial, with what result is not known. In 1780 a deduction of Rs. 6,238 was allowed on account of lands made over to the Bhutias, and the revenue paid in that year was Rs.25,935. On this basis the permanent settlement was made.

The above figures, which are taken from Glazier's report, do not work out accurately, but are no doubt approximately correct.

Baikunthapur was, during the latter part of the 18th century, not much more fortunate in its relations with its western neighbour, Nepal, than in those with Bhutan, for from 1780 to 1786

raids were made almost annually into Baikunthapur by the Nepalese on the pretence that the fouzdar of the Sikkim Raja had taken refuge there.

Baikunthapur was also infested by sanyasis, who ravaged the country in armed bands amounting to several hundreds. In 1789 a large body occupied the Baikunthapur forest, whence they issued on their predatory excursions. The forest was composed of tree jungle interwoven with cane, and was impassable except by narrow paths known only to the dacoits. The Collector of Rangpur got together a force of 200 barkandazes and held all the entrances to the forest. The sanyasis were at length starved out, and those who did not escape to Nepal and Bhutan were captured and brought to trial. It is said that within 12 months 549 sanyasis were brought to trial in this and other parts of Rangpur district.

The effects of these energetic measures were soon seen in a great development of the country. Though all accounts tend to show that at the time of the Permanent Settlement the number of Muhammadans in the pargana was numerically of no account, yet Hamilton reports in 1809 that he found half of the population to be Muhammadans, and his return of the two thanas comprised in the pargana would indicate that Muhammadans outnumbered the Hindus. The explanation is, that the Baikunthapur Raja, after the settlement, brought in a large number of Muhammadan immigrants from Dinajpur to cultivate the waste lands, so that, as regards this part of the country, the population had more than doubled in twenty years.

An interesting link between Baikunthapur and the outer world is contained in a letter which came in 1783 from the Governor-General to convey the thanks of, and some presents from, the Emperor of China to the talukdar of Batri-shazari (zemindar of Baikunthapur) for helping on some elephants which had been sent from the Raja of Nepal to the Emperor, and had passed through Baikunthapur.

The country west of the Teesta belongs to the Raja of Baikunthapur who had in the second half of the 18th century become quite powerful with the help of *Sanyasis*. In January 1773 the Committee of Circuit of the East India Company considered that it was very necessary for the security of the districts of Dinajpur and Rangpur to engage and subdue the Raja of Baikunthapur and accordingly on the 20th January 1773 required of 'Capt. Steward' to proceed against the Raja in the following language :

As the Governor expresses a strong inclination to retrieve our Military reputation, as well as to punish as effectually as possible any set of armed Men, entering our Districts in so riotous a manner I am of Opinion that You should not march directly to this Fort

but that you should proceed on the West Side of the Teesta, until you arrive at a place called Jolpigurée which is on the skirts of the Bycumpore District, I mean by this, that you should endeavour by every means to stop their retreat to the Westward, they having come in from the Morung Hills, you must inform yourself of all their Motions for this purpose. Tho' my intelligences say, that You have no Enemy whatever to cope with, but these sinasies who are actually in the pay of the Bycumpore Rajah against whom an Expedition is now on foot after the Reduction of Beyhar. I would recommend Your being constantly on Your Guard against a Surprise The Sinasies having great confidence in their Numbers and having for some time past given it out that they are coming to this place.

Captain Stuart acted promptly, and on the 3rd February 1773 made the following report from his camp in Jalpaiguri to 'P. M. Dacres Esq., and the Gentlemen of the Committee of the Circuit.'

At two in the Afternoon I made a second march, and took possession in the name of the Honble Company, of Jellpyeganrie, the Fortrefs and Capital of the Bycumpore Country, which the Rajah in the light of his Consternation evacuated.

I would do but little Justice to the Gentlemen and Soldiers under my Command, if I neglected to represent You, their Conduct on this Occasion: The Gentlemen's gallant Behavior far exceeded what I can describe, and the Boldiefs of the Black Officers and Sepoys, surpats'd my most sanguine Expectations.

I have the Honor &c to remain &c

As I can gain no Intelligence of the Enemies Route, nor of any strong Hold in Durrip Deows possession, when he can be supposed to make a stand; I shall remain encamped in Jellpyeganrie till I receive your further Instructions, without I learn some movement of the Enemies, that may render my Presence in the Field Necessary.

The Bycumpore Country is in a very high state of Cultivation, and appears to be one of the richest I have beheld. In order to forward as much as possible any future Military Operations that may be intended here, I am endeavoring to collect a Magozum Isal of Grain.

In 1783, Captain Turner was deputed to Bhutan, with a view to promoting commercial intercourse, but his mission proved unsuccessful. From this period little intercourse took place until the occupation of Assam by the English in 1826. It was then discovered that the Bhutias had usurped several tracts of lowland lying at the foot of the mountains, called the Duars or passes, and for these they agreed to pay a small tribute. They failed to do so, however, and availed themselves of the command of the passes to commit depredations within Indian territory. Captain Pemberton was accordingly deputed to Bhutan to adjust the points of difference. But his negotiations yielded no definite result; and every other means of obtaining redress and security providing unsuccessful, the Assam Duars were wrested from the Bhutias, and the British Government covenanted to pay £1,000 per annum to Bhutan, during good behaviour as compen-

sation for the loss. Continued outrages and aggressions were, however, committed by the Bhutias on British subjects in the Duars. Notwithstanding repeated remonstrances and threats, scarcely a year passed without the occurrence of several raids on Indian territory, headed by Bhutia officials, in which they plundered the inhabitants, massacred them, or carried them off as slaves. The following paragraphs, descriptive of the Bhutian campaign and the annexation of the Duars, are quoted in a slightly condensed form from the official account published in the 'Summary of Affairs in the Foreign Department of the Government of India, from 1864 to 1869' :

In the cold weather of 1863, Mr. Ashley Eden, C. S., was sent as an envoy to Bhutan to put a stop to these depredations and outrages, and to demand reparation. In April 1864, Mr. Eden returned from Bhutan and reported the ill-success of his mission. He had failed to obtain from the Government of Bhutan either satisfaction for past injuries or security for the future. He had been subjected to gross insults, and obliged by force to sign two papers, agreeing to make over the Assam and Bengal Duars to Bhutan and to surrender all runaway slaves and political offenders. It appeared that the Deb and Dharam Rajas were in reality mere puppets, and that the chief power in the State had been usurped by Tongsa Penlo; and that it was Tongsa Penlo and his faction who had treated the envoy with indignity. On Mr. Eden's return, the Government at once disavowed the treaty which he had been forced to sign, suspended all communications with the Bhutan Government, and strengthened the police force on the frontier. In June, the Government addressed letters to the Deb and Dharam Rajas, permanently annexing the district of Ambari Falakata (the Bengal Duars), and declaring that the annual payments previously made by the British Government to Bhutan of £200 as rent for Ambari Falakata, and of £1,000 as revenue from the Assam Duars, had ceased for ever. The letter demanded also the release of all British subjects, as well as subjects of Kuch Bihar and Sikkim, numbering in all, it was said, more than three hundred persons, who had been detained in Bhutan against their will; and the restoration of all property which had been carried off from British territory or Kuch Bihar or Sikkim, within the previous five years. The letter concluded by stating that unless these demands were fully met by the commencement of the ensuing September, further measures would be taken to enforce them. To these demands, the Deb Raja, in whose name all official communications from the Bhutan Government were usually made, sent no reply whatever. In August, however, a letter was received from the Dharam Raja, offering no apologies for the gross insults offered to the envoy, and altogether ignoring the Government's threat of coercion, but proposing to receive a fresh envoy or to send one himself. This proposition was considered to be out of the question. If the Dharam Raja had manifested any intention of liberating the captives or of restoring the plundered property, the proposal to receive an envoy from Bhutan might have been entertained; but as it was, the action of the Bhutan authorities left no option to the British Government but to enforce its demands, and to compel the Bhutias to respect the frontier for the future.

Accordingly, it was resolved to carry out the permanent annexation of the Bengal Duars, amounting to an advance northward for a distance of from twenty to thirty miles along a line of about a hundred and

eighty miles in length, so as to command all the passes into the plains; and at the same time to confine our occupation to a tract of country which was peopled by a race who had no affinity with the Bhutias, and had long suffered from their tyranny, but who were closely allied with the people of Bengal, and were expected to co-operate cordially with the British authorities. On the 12th November 1864 Government issued a proclamation permanently annexing the Bengal Duars; and it was determined that an expedition should advance in four columns and take up their several posts at Diwangiri, Sidli, Pasakha, and Dalingkot. Instructions were also issued that no overtures from the Bhutan Government were to be taken into consideration, except upon the following basis :—

- (1) That the Bhutan Government surrender all the Bengal Duars and the hill territory on the left bank of the Tista, up to such points on the watershed, lower range of hills as might be laid down by the British Commissioner.
- (2) That the Bhutias give up the two documents extorted from Mr. Eden, and send a chief of rank to apologise for the flagrant misconduct towards the envoy.
- (3) The surrender of all captives still detained in Bhutan against their will.
- (4) That the Bhutan Government enter into a treaty of friendship and fair dealing for the future.

In the event of these conditions being accepted, the British Government offered an annual grant of £2,500, to be hereafter increased with reference to the prosperity of the tract annexed up to the sum of £5,000, but this grant was to depend entirely on the will and pleasure of the British Government and on the good conduct of the Bhutias.

On the 7th December, 1864, the four columns made a simultaneous advance. Within six weeks they had driven in the Bhutias with but slight loss, and occupied eight or ten of their posts along a frontier of about a hundred and eighty miles of difficult and jungly heights. Subsequent to these successes the civil authorities set to work to introduce rule and order into the Duars, to implant confidence in the minds of the inhabitants, and to arrange generally for the administration of the newly-annexed territory. They also concerted measures, in communication with the military authorities, for establishing a strict blockade of the passes with the object, by cutting off their supplies, of inducing the Bhutias to come to terms.

Meantime, in the beginning of 1865, the Bhutias appear to have resolved on a bold effort to recover the territory they had lost, and to drive the invaders from their country. They suddenly debouched in force along the frontier, threatening the whole line of military posts, excepting the western one at Dalingkot. On 4th February, 1865, the Bhutias so far succeeded in their design as to capture the eastern post at Diwangiri. This was the more surprising, as the garrison at Diwangiri had repelled a far more formidable attack which had been made on the 30th January. However, on the second occasion the garrison abandoned its position with the loss of two mountain train guns, and during its retreat was entirely unmolested by the enemy. At one other post, Tajgaon, which was apparently untenable, the commanding officer found it necessary to retire, and did so in perfect order. At all the other posts the garrisons held their own although threatened in force by the Bhutias. On the 15th March, General Tytler re-occupied the position at Tajgaon, and on the 2nd April General Tombs recaptured Diwangiri. With these two affairs all active operations ceased. The Bhutias lost heart, and

made no further efforts to regain their ground, or to molest the force which had taken possession of the Duars and their forts. Active hostilities were brought to a close by the setting in of the rains, and the Bhutan authorities evinced an earnest inclination to come to terms. They were invariably referred to the conditions offered them in November 1864, and were told to entertain no hope that any modification would be admitted. They were also warned that, unless they acceded to these terms in their entirety, the British force would enter Bhutan in the ensuing cold weather and exact its own conditions at Punakha and Tongsa, the Bhutia capitals. At the same time preparations were actively pushed forward on a sufficient scale for the despatch of two columns into the heart of Bhutan, one to start from Buxa and the other from Diwangiri; and the construction of roads into Bhutan territory was conducted with considerable energy. The Bhutan authorities were soon convinced, by the reality of these preparations, that the Government of India was in earnest, and they accepted the terms which had been offered them, with the additional stipulation that the two guns which had been abandoned in the retreat from Diwangiri, and which were then in the possession of Tongsa Penlo, should be restored to the British Government. A treaty of peace on these terms was accordingly concluded on the 11th November 1865; and it was fairly anticipated that the material guarantee for the good conduct of the Bhutia Chiefs which the Government possessed, in the shape of withholding payment, either altogether or in part, of the annual grant, would secure the peace of the border, and generally put a stop to the raids and scenes of rapine which were of such frequent occurrence in former years.

The following proclamation was issued by Government annexing the Bhutan Duars :

PROCLAMATION

For many years past outrages have been committed by subjects of the Bhutan Government within British territory and in the territories of the Rajas of Sikkim and Kuch Bihar. In these outrages, property has been plundered and destroyed, lives have been taken, and many innocent persons have been carried into, and are still held in captivity.

The British Government were sincerely desirous of maintaining friendly relations with neighbouring States, and especially mindful of the obligations imposed on it by the Treaty of 1774, has endeavoured, from time to time, by conciliatory remonstrance to induce the Government of Bhutan to punish the perpetrators of these crimes, to restore the plundered property, and to liberate the captives. But such remonstrances have never been successful, and even when followed by serious warning have failed to produce any satisfactory result. The British Government has been frequently deceived by vague assurances and promises for the future, but no property has ever been restored, no captive liberated, no offender punished, and the outrages have continued.

In 1863, the Government of India, being averse to the adoption of extreme measures for the protection of its subjects and dependent allies, despatched a special mission to the Bhutan Court charged with proposals of a conciliatory character, but instructed to demand the surrender of all captives, the restoration of plundered property, and security for the future peace of the frontier.

This pacific overture was insolently rejected by the Government of Bhutan. Not only were restitution for the past and security for the future refused, but the British envoy was insulted in open Durbar and compelled, as the only means of insuring the safe return

of the mission, to sign a document which the Government of India could only instantly repudiate.

For this insult the Governor-General in Council determined to withhold, for ever, the annual payments previously made to the Bhutan Government on account of the revenues of the Assam Duars and Ambari Falakata which had long been in the occupation of the British Government, and annexed those districts permanently to British territory. At the same time, still anxious to avoid an open rupture, the Governor-General in Council addressed a letter to the Deb and Dbaran Rajas, formerly demanding that all captives detained in Bhutan against their will should be released, and that all property carried off during the last five years should be restored.

To this demand the Government of Bhutan has returned an evasive reply, from which can be gathered no hope that the just requisition of the Government of India will ever be complied with, or that the security of the frontier can be provided for otherwise than by depriving the Government of Bhutan and its subjects of the means and opportunity of future aggression.

The Governor-General in Council has therefore reluctantly resolved to occupy permanently and annex to British territory the Bengal Duars of Bhutan and so much of the hill territory including the forts of Dalingkot, Pasakha, and Diwangiri, as may be necessary to command the passes and to prevent the hostile predatory incursions of Bhutias into the Darjeeling district, or into the plains below. A military force, amply sufficient to occupy this tract and to overcome all resistance, has been assembled on the frontier and will now proceed to carry out this resolve.

All chiefs, zamindars, mondals, rayats, and other inhabitants of the tracts in question are hereby required to submit to the authority of the British Government, to remain quietly in their homes, and to render assistance to the British troops and to the Commissioner who is charged with the administration of the tract. Protection of life and property and a guarantee of all private rights are offered to those who do not resist, and strict justice will be done to all. The lands will be moderately assessed and all oppression and extortion will be absolutely prohibited.

The future boundary between the territories of the Queen of England and those of Bhutan will be surveyed and marked off, and the authority of the Government of Bhutan within this boundary will cease for ever.

Under the treaty arrangement with the Bhutan Government an annual subsidy of Rs.50,000 is paid to that Government. Payment is made on the 10th January of each year by the Deputy Commissioner of Jalpaiguri at Buxa.

The district of Jalpaiguri as an administrative unit came into being on the 1st January, 1869, by the amalgamation of the Western Duars district with the Jalpaiguri subdivision of Rangpur (Notification of 8th December 1868). This subdivision had been formed in 1854 with headquarters at Sookanee and was called the Sookanee subdivision until the formation of a military cantonment at Jalpaiguri leading to the transfer of the headquarters and the alteration of the name.

The so-called Western Duars district was formed in 1864 and consisted of that portion of

the lands taken from Bhutan at the end of the war, which lies between the Teesta and Sankos rivers. Three subdivisions were included in the district, *viz.*, Sadar with headquarters at Mainaguri, Buxa with headquarters at Alipur, and Dalimkot which three years later was transferred to Darjeeling district. At the same time when this transfer was made the criminal jurisdiction of the Jalpaiguri subdivision of Rangpur was transferred to the Deputy Commissioner of Western Duars district. Apart from the changes in the boundary of the district consequent on the Radcliffe Award of 1947, the district has had several boundary problems, one of which recurs annually to this day. This is the Jalpaiguri-Bhutan boundary problem, but before this is briefly discussed, the following is quoted from p.21 of D.H.E. Sunder's Survey and Settlement Report of the Western Duars in the district of Jalpaiguri, 1889-95 :

In 1886-87 the Government of Bhutan addressed the Commissioner of the Rajshahi Division pointing out that a small tract of hilly country east of Buxa, and known as the Deosthan, had been ceded to the British Government in 1864-65, but was held sacred by the Bhutias, and they asked that this land, which was quite useless to us, may be returned to them. The Government of India received the request favourably, and directed that the land should be given up to Bhutan. About this time it was found that a tract of table-land also situated east of Buxa, which belonged to the Bhutan Government, was being made use of by people for the purpose of catching wild elephants in the reserved forests of our Government under licenses granted to them by the Deb Raja of Bhutan. As soon as I pointed this out to the Deputy Commissioner, Mr. Dalton, he visited the place with me and decided that it would be better to take the boundary further north, along the crest of the Schimchula range of hills, than to allow the Bhutias to have the above mentioned table-land which had apparently been given to them by mistake when the boundaries were laid in 1864-65. This was pointed out to the Foreign Department of the Government of India, who sanctioned Mr. Dalton's recommendations and directed that the Government of Bhutan should be asked to sell the land. Accordingly the then Divisional Commissioner authorised me, in his letter No.567Jet, dated the 10th March 1888, to negotiate for purchase of the land. The Deb Raja of Bhutan sent an envoy whom I met at Buxa, and we arranged matters to the satisfaction of both Governments without a hitch of any kind. I made over the Deosthan land, together with Rs.10,000 to the Bhutan Government, and received in lieu, through their envoy, the whole of the tract of country which is known as the "Jainti lands", covering about 21.43 square miles, or 13,719.05 acres. This was reported to Government, and I at the same time pointed out that, as the hill to the north of the newly-acquired land had no name, I had named it the Lewis hill after the Divisional Commissioner. My proceedings were approved by the Government of Bengal in political Department letter No. ^B6, dated 27th July 1889.

The Bhutan boundary was first demarcated by T.H.O'Donel in 1866-7. In the next two decades several modifications in the original boundary were made agreement between the Government of India and the Bhutan Government and in 1891-2 the whole boundary was relaid by a Capt. Hodgson. It was found necessary, owing

to disappearance of marks to demarcate this boundary again during the survey and settlement operations of 1906-16. The work was done by Delaney in 1909 under the guidance of Captain F.C. Hirst. Several disputes were settled and the boundary as approved in 1893 was relaid. At the present moment there are 239 boundary pillars between Jalpaiguri and Bhutan, with the first pillar commencing at the junction of the Jaldhaka and Jiti river and pillar No. 239 near the tri-junction of Bhutan-Jalpaiguri and Assam. This line is covered by a set of pillars Nos. 1 to 164 which are iron pillars, which being liable to damage from wild animals, are being replaced gradually by stone or masonry work. Under the Bengal Eastern Frontier Regulation V of 1873 an "inner line" has been notified on the various frontiers of India. The notification framed under this Regulation prohibits foreigners, *i.e.*, non-Indians, to cross the inner line between Jalpaiguri and Bhutan, without prior specific permission in the form of a pass from the Deputy Commissioner of Jalpaiguri acting on behalf of the Government of India. From time to time a description of the "inner line" prescribed under the Bengal Inner Frontier Regulation V of 1873 is notified in the Gazette of India. The latest notification in respect of the Jalpaiguri-Bhutan border runs as follows :

A line commencing from iron pillar No.1 at the junction of the rivers Jaldhaka and Jiti and passing eastward to iron pillar No. 164 on the western bank of the river Sankos, the same line having been marked on the ground all along the boundary between Bhutan and the district of Jalpaiguri by means of iron and stone pillars.

As the country between Jalpaiguri and Bhutan is liable to diluvion and alluvion, almost every year an annual conference takes place between the Bhutan authorities and the Deputy Commissioner of Jalpaiguri to relay the boundary pillars between Jalpaiguri and Bhutan. Another boundary which was fixed rather late was the Jalpaiguri-Cooch Behar boundary. Cooch Behar having been until 1950 a princely State. In 1895 a boundary dispute arose between Jalpaiguri district and the State of Cooch Behar. The two Governments directed a re-demarcation. It was mutually agreed that both sides should abide by the line shown in the map of O'Donel in 1868-70. The relaying was accepted in September 1899, and the readjustment was finalised in 1901. The matter, however, was reopened in 1910 and the map was relaid in 1910-11 by O.J.Hart of the Survey Department of the Bengal Government. The work of Hart was accepted by the Maharaja of Cooch Behar and confirmed by the Government of India in November 1914 and April 1915, respectively. Within the district the respective areas of the Sadar and Alipur Duars subdivisions have varied from decade to decade and the following statement gives an account of these variations since 1881.

Area, Village and Population in Jalpaiguri, 1881-1951

District and Subdivision	1951			1941		
	Area in sq. miles	Number of villages	Population	Area in sq. miles	Number of villages	Population
JALPAIGURI DISTRICT	2,374.4	776	914,538	2,523	889	845,702
Sadar Subdivision	1,295.9	431	546,142	1,445	515	524,884
Alipur Duars Subdivision	1,078.5	345	368,396	1,078	374	320,818

District and Subdivision	1931			1921		
	Area in sq. miles	Number of villages	Population	Area in sq. miles	Number of villages	Population
JALPAIGURI DISTRICT	2,405	429	739,160	2,427	412	694,056
Sadar Subdivision	1,374	254	466,087	1,396	266	450,825
Alipur Duars Subdivision	1,031	175	273,073	1,031	146	243,231

District and Subdivision	1911			1901		
	Area in sq. miles	Number of villages	Population	Area in sq. miles	Number of villages	Population
JALPAIGURI DISTRICT	2,381	1,384	661,282	2,424	414	544,906
Sadar Subdivision	1,330	1,204	458,581	1,282	236	425,553
Alipur Duars Subdivision	1,051	180	202,701	1,142	178	119,353

District and Subdivision	1891			1881		
	Area in sq. miles	Number of villages	Population	Area in sq. miles	Number of villages	Population
JALPAIGURI DISTRICT	2,424	2,223	433,334	2,346	441	316,575
Sadar Subdivision	1,282	1,771	360,887	1,170	314	271,914
Alipur Duars Subdivision	1,142	452	72,447	1,176	127	44,661

Note - The figures for 1911 and 1891 for Jalpaiguri are probably inflated by the inclusion of a number of enumerators' blocks in several thanas.

Under the Radcliffe Award the southern police stations of Tetulia, Pachagar, Boda, Debiganj and Pathgram, comprising a total of 672 square miles were given away to East Bengal. The area of the district was thus reduced from a total of 3,050 square miles on the 14th August 1947 to a total of 2,378 square miles on the following day. The relevant portion from Sir Cyril Radcliffe's partition award concerning the district of Jalpaiguri is reproduced below :

A line shall be drawn along the boundary between the thana of Phansidewa in the district of Darjeeling and the thana Tetulia in the district of Jalpaiguri from the point where that boundary meets the Province of Bihar and then along the boundary between the thanas of Tetulia and Rajganj, the thanas of Pachagar and Rajganj, and the thanas of Pachagar and Jalpaiguri, and shall then continue along the northern corner of the thana Debiganj to the boundary of the State of Cooch-Behar. The district of Darjeeling and so much of the district of Jalpaiguri as lies north of this line shall belong to West Bengal, but the thana of Pathgram and any other portion of Jalpaiguri district which lies to the east or south shall belong to East Bengal.

After the annexation of the Western Duars, a regiment of native infantry was stationed in temporary barracks at Alipur on a block of land lying west of the road leading to Buxa. Alipur Duars is named after Colonel Hedait Ali Khan, who led the expedition against the Bhutanese.

The District and Sessions Judge of Jalpaiguri is also the District and Sessions Judge of Malda, West Dinajpur and Darjeeling, with his headquarters at Jalpaiguri. The district of Jalpaiguri lies in the Presidency Division. The District Officer is called the Deputy Commissioner and not the District Magistrate. The town of Jalpaiguri was abandoned as a cantonment town soon after it became the district headquarters. The Deputy Commissioner for the district is synonymous with the District Magistrate and Collector (see below). The strength of the executive service recommended by the Divisional Commissioner for general administration, is 3 officers of the West Bengal Civil Service in the Sadar subdivision and one in the Alipur Duars subdivision; 8 officers of the West Bengal Junior Civil Service, of whom

one must be a First Class Magistrate, in the Sadar subdivision and 5 officers of the West Bengal Junior Civil Service in Alipur Duars subdivision, of whom one must be a First Class Magistrate. There is a Superintendent of Police for the district, aided by a Deputy Superintendent of Police. Alipur Duars subdivision has an Assistant Superintendent of Police as the Subdivisional Police Officer. The Commissioner of the Presidency Division has a second headquarters in Jalpaiguri for the northern districts of the Division which are Malda, West Dinajpur, Jalpaiguri, Darjeeling and Cooch Behar, and the Deputy Inspector General of Police of the Jalpaiguri Range has his headquarters in Jalpaiguri. In the Jalpaiguri subdivision there are three circles, the Sadar Circle consisting of Jalpaiguri and Rajganj police stations, the Circle of Mal consisting of Mal and Matiali police stations, and the Circle of Mainaguri consisting of Mainaguri, Nagrakata and Dhupguri police stations. In the Alipur Duars subdivision there are 2 Circles: the Circle of Falakata consists of the police stations of Madarihat, Falakata and Kalehini; the Circle of Alipur Duars consists of the thanas of Alipur Duars and Kumargram.

PHYSICAL ASPECTS

The district of Jalpaiguri lies between 26° 16' and 27° 0' north latitude and between 88° 25' and 89° 53' east longitude. It contains an area of 2,378.3 square miles according to the Surveyor General of India, and 2,374.4 square miles according to the Director of Land Records and Surveys, West Bengal. Its population, which according to its present boundaries was 544,906 in 1901, has increased to 914,538 in 1951. A most spectacular increase happened during the period 1872 and 1901, for in 1872 the population of the district as at present constituted was only 201,659. Between 1872 and 1881, owing to the rapid establishment of tea gardens, the first tea garden having been founded in 1873, the population shot up more than 50 per cent. by 114,916 persons. Of this more presently. The principal town and the administrative headquarters of the district and of the Presidency Division, is Jalpaiguri, situated on the west or right bank of the Teesta river in 26° 32' north and 88° 43' east. The name Jalpaiguri, is derived from *Jalpai* or olive tree, and *Guri* or place; it means, therefore, the place of the olive trees, of which there used at one time to be many in the town. The district has many names which go by a particular tree or incident in its history: for example, Mainaguri and Dhupguri, or Sanyasikata the place where the *sanyasis* of the Baikunthapur Raj fell in battle with the British, or Mogulkata probably named after a place of battle between the Moghul army and the Bhutanese army in the 17th century.

The present district of Jalpaiguri consists of the Western Duars, annexed in 1865 after the

war with Bhutan and the thanas of Jalpaiguri and Rajganj separated from the Rangpur district in 1869. It is bounded in the north by the district of Darjeeling and the independent State of Bhutan, on the south by the district of Rangpur in East Bengal and Cooch Behar, on the west by the districts of Darjeeling and East Bengal, and on the east by the Eastern Duars in Assam, which form part of the district of Goalpara, the right bank of the Sankos river marking the boundary line. The name Duars, divided into western and eastern, the term western applying to that portion which falls in Jalpaiguri district, refers to that tract of country which affords gateways or *duars* to Bhutan from India. There are supposed to be 11 recognised *duars* or passes into Bhutan from India, of which 5 happen to be in Jalpaiguri district. These are from the west eastwards, Chamurchi, Lakhimpur, Balla, Baksha (Buxa), and Kumargram. Frontier guards are established at three points at Chamurchi, Buxa and Jaigaon. Chamurchi is by far the most important commercial route. Lakhimpur is reached from Lankapara Tea Estate or Totopara. It is a difficult route used only by those who live along it. The Jaigaon route has not much commercial importance. Buxa has virtually two routes: one goes *via* Buxa to the third big town of Bhutan; the other goes direct from Jainti. The second most important commercial route is through Kumargram Tea Estate within Kumargram Duar. This road passes through to *Kalikhola*, an important bazar in Bhutan. Kalikhola is situated on the western bank of the river Sankosh and can be said to be almost at the trijunction of Bhutan, West Bengal and Assam. The Balla route is not very frequented. The easternmost pass is at Bhutanghat at border pillars No. 223-4 at the north-eastern corner of the Sachaphu reserve forest.

Configuration—The district comprises two well defined tracts which differ alike in history and in administration. The older portion which lies for the most part to the west of the Teesta, is permanently settled, and resembles closely the district of Rangpur which has now gone to East Bengal East of the Teesta and hemmed in between Kalimpong and Bhutan in the north and Rangpur and Cooch Behar in the south, lies a strip of submontane country about 22 miles in width, known as the Western Duars. Until the Constitution of India came into force on the 26th of January 1950, the Western Duars of the district of Jalpaiguri like the district of Darjeeling were included in the list of Scheduled Districts under the Scheduled Districts Act (XIX of 1874). Under this Act Deputy Commissioners, equivalent to District Magistrates of other districts, used to be appointed. This Act is no longer in force and, in fact, after the passing of the Constitution of India there is no such thing as a scheduled district. It may be interesting to record briefly the history of scheduled districts and Deputy Commissioners, as these nomenclatures

will soon pass out of public memory. The early history appears to be that the East India Company Act, 1773 (1330, GEO III, Ch. 63), commonly known as the Regulating Act, conferred for the first time legislative powers upon the Governor-General in Council. In pursuance of the powers vested under this Act and other subsequent Acts of Parliament, regulations for the Bengal, Madras and Bombay Presidencies as then constituted were made and these Presidencies were known as the Regulation Provinces. All territories outside these Presidencies were known as the non-regulated territories. Thus the Western Duars of Jalpaiguri wrested from Bhutan in 1865 came to be outside the regulated zone and some of the laws in force in the regulated territory were applied by executive instruction of Government on to this area as well. After the passing of the Scheduled Districts Act of 1874 (XIV of 1874), some of the laws of the regulated territories were applied to Jalpaiguri by virtue of this Act for the scheduled districts within the meaning of that Act. This state of affairs continued till the passing of the Government of India Act of 1919. Under this Act, the Darjeeling district and the Duars and Jalpaiguri were declared to be backward tracts and the Governor-General was empowered to issue Notifications directing that an Act of the Indian Legislature shall not apply except with such modifications and exceptions as he may direct and was also empowered to authorise the Governor to issue similar notification in respect of an Act of the local Legislature. This position was slightly changed by S. 92 of the Government of India Act where the Governor of the province was required specifically to promulgate the application of the ordinary laws. Under the Constitution of India promulgated on the 26th of January 1950 there is no such thing as a scheduled or non-regulated district. The Deputy Commissioner is, for all purposes, the same as the District Magistrate and is notified as such in the Gazette at the time every fresh appointment is made.

In general shape the district is an irregular rectangle lying lengthwise west and east. Before 1787, the western boundary used to be the present bed of the Mahananda or approximately the old bed of the Teesta. After 1787 the western boundary of the district has been provided by the Mahananda while the eastern boundary by the Sankos river. The country west of the Teesta presents a slightly undulating expanse of level paddy fields and scrub jungle, broken only by the groves of bamboos, betelnut palms and fruit trees mainly the *jack*, which surround the homesteads of the tenant farmers or *jotedars*. The fruit trees are mainly banana, mango, jack and the betelnut. Some of these homesteads have an exceedingly neat and comfortable look. There is little appearance of waste land along the banks of the numerous small streams and water courses (*khals*) which intersect this tract. Patches of tree jungle and

brushwood are met with, not of any considerable extent, but still large enough to afford refuge to wild animals in the vicinity. The only large tract of uncultivated country in the Sadar subdivision is the valuable and extensive *sal* forests about 77 square miles in extent and situated about 12 miles north-west of Jalpaiguri town. It is known as Baikunthapur jungle mahal belonging to the Raikut Rajas of Baikunthapur. In 1911 J. F. Gruning writing the district gazetteer described the area as 81 square miles. No exact measurement, however, has been made in recent years. In the cold weather and particularly in the months of November and December a magnificent view of the Darjeeling Himalayas can be seen, with Kanchanjangha (28,146') towering about the west. The tract east of the Teesta, called the Western Duars or Bhutan Duars, is a flat level strip of country, averaging about 22 miles in width, running fast along the foot of the Kalimpong hills and then along the Bhutan hills. In the bed of the Teesta itself, however, there are large islands or *chars* containing much valuable timber. In recent years, in 1950, a valuable patch of forest in the bed of the Teesta was washed away by a high flood. The chief characteristics of the Western Duars are the numerous rivers and hill streams which intersect it in every direction, and the large tracts of *sal* forests and heavy grass and reed jungle interspersed with wild cardamoms. A great deal of the grass and reed tracts away from the rivers have been put under heavy timber since the turn of the century, but many grass and reed tracts still remain, especially dense and luxuriant, along the banks of rivers and streams, where they grow many feet in height. Here the beautiful cotton tree is to be found growing in great luxuriance and surprising vigour and rapidity, resisting even the action of fires by which the jungles and undergrowth are yearly consumed at the commencement of every cultivating season. The entire country, except for intervals of patches of ordinary cultivation, is studded with tea gardens all over and tea bushes constitute almost a thick carpet on the soil, shaded by shade trees. They make a beautiful sight along mile after mile of the best road in the State. These green carpets of tea are interspersed only with the red roofs of bungalows and factories or labour settlements or with large patches of reserved or Government forests. At regular intervals of about 10 to 12 miles there are road junctions around which human settlements have grown and cultivation continues for a few square miles around. The largest area of ordinary cultivation in this tract seems to be the tract between Dalgaoon and Falakata in the heart of the Western Duars. The little villages are remarkable for the most luxuriant vegetation. Large clumps of bamboos and groves of banana trees hem them in on all sides, almost hiding the houses from view. Above them are seen the tall graceful betelnut palms, and here and there a few other large trees such

as mango, tamarisk, jack and peepul; and round about the dwellings, in fact up to the very doorways, are shrubs and creeping palms of endless form and variety. Fine fields of rice and mustard are also found in the vicinity of the villages. The scenery in the north of the Duars, along the foot of the mountains, up the plateaux, where the large rivers debouch into the plains, the gorges and valleys are especially grand and beautiful, particularly at the points where the Jaldhaka, Jainti and Sankos rivers leave the hills. In the neighbourhood of the Bhutan range from five to ten miles before reaching the hills the land rises gradually. In this tract the soil is only from 3 to 4 feet deep with a substratum of gravel and shingle, containing the valuable red top soil which is the life of the tea plant; and in the dry season the beds of some of the streams, especially the Pana river or the Dima river in Kalchini police station for some miles after leaving the hills, are dry, the water re-appearing further down.

The grandeur of the scenery is enhanced by the steep hills of Bhutan which form a splendid background, and right up to the border of which tea gardens and extensive forests are leading out. Between the Jaldhaka and the Torsa and again between the Torsa and the Dima river intervene large tracts of primeval looking forests, tea gardens and villages. But the most impressive forests are between the Dima and the Jainti and between the Jainti and the Sankos. There the reserved forests can be seen in all their grandeur with small patches of cultivated lands and forest villages in between. They come up right against the hills, especially in places like Buxa and Sinchula and the Sachaphu, going right up to Mahakal. No better idea of the forests in the Duars can be obtained than that which one gets in the Chapramari, Garumara and Moraghat forests west of the Torsa, the Nilpara and Chilapatha Mendabari forests between the Torsa and the Dima, and the great Jainti and Sachaphu forests between the Dima and Sankos. A splendid view is obtained along the Alipur-Buxa road. Here high *sal*, sometimes with a clear straight trunk of about 70 feet, *saj*, *champ*, *sida*, and other trees grow luxuriantly and lie on both sides of the road, while their branches produce a delightful shade. Further northward and eastward in the Sachaphu the scene gradually changes. In March and April the orchids come out and frequently make the trunks of trees a bouquet of flowers. The trees appear taller, their leaves more fresh and green; the underwood less dense, the leafy crowns of the trees are now far above.

The only mountainous tract in the district is that part of the Bhutan range in the immediate neighbourhood of the frontier outpost of Buxa. The boundary here between Indian and Bhutan territory is the Sinchula (or more properly

Tchinchula) range. From one of its highest peaks, called Chhota Sinchula, which has an altitude of 5,695', a splendid view is obtained of the hill of the Buxa Duar. In the distance are seen large green patches of cultivation; in the midst of wide tracts of tea carpet, brown grass and reed jungle, the red-roofed bungalows and factories and the cultivated plots with homesteads and small villages, make a pretty sight. Nearly up to the hills are dense and extensive tracts of *sal* and other tree forests, the whole being interspersed by numerous rivers and small streams. The Sinchula range has an elevation varying from 4,000' to a little over 6,000', the highest peak Renigango being 6,222' above sea level. The hills run generally in long even ridges, here and there the summits bristle up into creeks of from 200' to 300'. Below Sinchula, and on a range of hills varying from 1,659 to 2,457 feet in height are situated what once used to be the Buxa Cantonment, later the Buxa political prisoners' detention camp, and now a frontier outpost. The site of this outpost is 26°45' 15" north latitude and 89° 37' 0" east longitude. Buxa is 32 miles distant from Cooch Behar town. The Sinchula can nearly everywhere be ascended by men and by beasts of burden, but not by wheeled vehicles, as the whole range is thickly wooded almost to the summit. Buxa is one of the principal passes into Bhutan territory, and leads to Marichan in that State, and is the historic site where the annual subsidy of Rs. 50,000 is paid to the Bhutan Government on the 10th of January of each year.

The river system—The principal rivers in the Jalpaiguri district proceeding from west to east are (1) the Mahananda which forms the western boundary, (2) the Teesta, in the permanently settled area of the district. Between the Mahananda and the Teesta are such small rivers as the Sunn, the Karatoa, Chaul, the Talma, the Jamuna, the Panga, the Karala, running through Jalpaiguri town, the Chukchuka and the Rukruka and the Gadadhar. Dhardhara is now part of the Teesta. All these rivers or rivulets run from north to south into the Karatoa which makes a broad river in Rangpur district of East Bengal. The next large river east of the Teesta is the Jaldhaka, but between the Teesta and the Jaldhaka, the Dharla river is a medium sized stream. The Lish river descends from Bagrakot and joins the Teesta, the first stream in the basin between the Teesta and the Jaldhaka. The water of the Lish is constantly muddied by coming through Bagrakot territory and its bed is rising slowly, often through the accumulation of shingle, small rocks and boulders carried down with the water. In the course of the last eight years since 1944, the bed of the Lish under the Bayley Bridge across it has risen about 8 feet. The next river is the Gish which falls into the Teesta. It is said that the bed of the river

Gish has raised itself 18 feet under the railway bridge in the course of the last 15 years. The Chel river comes further east near Oodlabari to be joined by the Chitijhora river south of Dam Dim. It is joined southwest of Lataguri by the Neora river which is formed from three streams Mal, Neora and Kurtia. The Jaldhaka receives a tributary west of the river called the Murti which comes down beside Samsing and flows past Chalsa. The Jaldhaka also receives another principal tributary called the Jiti and the junction between Jaldhaka and Jiti forms the site of the first boundary pillar between Bhutan and India. The Jaldhaka is joined near Ramsahi Hat by the Daina. The next large river east of the Jaldhaka is the river Torsa. Between the river Jaldhaka and the Torsa are several small streams which, from west to east, are called the Galandi, the Duduya, the Damdima, the Tasati, the Mujnai, and the Buritorsa. The next major river, east of the Torsa, is the Gadadhar or Jainti river. Several small streams intervene between the Torsa and the Jainti which, from the west to the east, are the Sanjol river and the Silitorsa. The Bania river, the Pana river, the Dima river and the Datia, all pour into the Kaljani which runs past Alipur Duar town. The Balia river forms the Chiko river about 6 miles to the north-east of Alipur Duar town. The upper part of Jainti river is called the Jainti and the lower part the Gadadhar. The next big river east of the Jainti is the Sankos, which forms the eastern boundary of the district and also between West Bengal and Assam. Between the Jainti and Sankos are, from west to east, the Kalajani, the Turturi and the Raidak. The Raidak is a fairly big stream which rises at the feet of the Mahakal hill. Between the Raidak and the Sankos is a small stream called the Chikijhora which shoots off from the Sankos and runs southwards midway between Raidak and Sankos.

The bigger rivers, namely, the Mahananda, the Teesta, the Jaldhaka, the Torsa, the Kaljani, the Raidak and the Sankos, are normally all navigable by boats of 100 maunds burden during July and September, although the current downstream is extremely swift. As already stated, owing to the porous character of the soil near the hills, the beds of some of the rivers in the Duars are without water for some few miles of their course. The following is a brief account of each of the chief rivers of the district, with their tributaries.

The Mahananda—The Mahananda has its source near Mahaldiram in the Darjeeling district and flows in a southerly direction down to Siliguri where it alters its course slightly towards the west and enters the Jalpaiguri district. From this point it forms a boundary between the Jalpaiguri and Darjeeling and then between East Bengal and Jalpaiguri. A description of the

Mahananda will be found in Buchanan Hamilton's account published elsewhere in this volume. Near Siliguri the bed of the Mahananda is stony, and the Assam Railway obtains much of its ballast from the bed of the Mahananda. The name is a Bengali corruption of the Lepcha word *Mahaldi*.

The Teesta—The following account of the Teesta is taken from W. W. Hunter's Statistical Account of the district of Jalpaiguri, 1876. The Teesta is no longer navigated by steamers of light draught and much of the description can be compared with that of Francis Buchanan Hamilton, published elsewhere in this volume as an Appendix. James Ferguson's comments on the course of the Teesta may be seen in his 'On Recent Changes in the Delta of the Ganges' published as an Appendix in Census of India, Vol. VI, Part I-C, for West Bengal, Sikkim and Chander nagore, 1951.

The Tista is the largest and most important river in the District, and is navigable throughout its course by steamers of light draught during the greater part of the year. It enters Jalpaiguri from Darjiling at its north-western corner, and flows in a south-easterly direction until it passes into Rangpur District from Patgram. The Tista forms the boundary of the Duars, dividing them from the permanently settled portion of the District, which, previous to 1869, belonged to Rangpur. On its left or east bank, the principal tributaries are the Lenu or Lish, Ghuh, Saldanga, and Dhalla rivers. It has no tributaries of any note on its right or west bank. The Tista itself falls into the Brahmaputra, a little above the town of Raniganj in Rangpur District. Formerly it used to flow into the Ganges, but, as stated in my Account of Rangpur (vol. vii. p. 165), during the disastrous floods of 1787 the river suddenly forsook its channel and turned its waters into a small branch marking a still more ancient bed of the same river, which empties itself, as above stated, into the Brahmaputra in Rangpur District. Major Rennel's Atlas of 1770 shows the old course of the river, and at page 352 of his *Memoir of a Map of Hindustan* he states: 'The Tista is a large river which runs almost parallel to the Ganges for nearly a hundred and fifty miles. During the dry season, the waters of the Tista run into those of the Ganges by two distinct channels situated about twenty miles from each other, and a third channel at the same time discharges itself into the Meghna; but during the season of the floods, the Ganges runs into the Tista, whose outlet is then confined to the channel that communicates with the Meghna.' The banks of the Tista are alternately abrupt and sloping, according as the current strikes from one bank to the other. This is a common feature of most large Indian rivers. Major Rennel, in writing of the Ganges, treats of this question at page 341 of his *Memoir*, quoted above, but his remarks apply equally to the Tista, and may be quoted here:— 'Commonly, there is found on one side of the river an almost perpendicular bank, more or less elevated above the stream according to the season, and with deep water near it; and on the opposite side, a bank shelving away so gradually as to occasion shallow water at some distance from the margin. This is particularly the case in the more winding parts of the river, because the very operation of winding produces these steep and shelving banks. The current is always strongest on the external side of the curve formed by the serpentine course of the river, and its continual action on the banks either undermines them or washes them down. In places where the current

is remarkably rapid, or the soil uncommonly loose, tracts of land are swept away in the course of a single season, such as would astonish those who have not been eye-witnesses to the magnitude and force of the mighty streams occasioned by the periodical rains of tropical regions. This necessarily produces a gradual change in the course of the river, the quantity lost on the one side being added to the other by the mere operation of the stream. The fallen pieces of the bank quickly dissolve into muddy sand, which is hurried away by the current along the border of the channel to the point from whence the river turns off to form the next reach, where, the stream growing weak, it finds a resting place and helps to form the shelving-bank, which commences at the point and extends downwards along the side of the succeeding reach. To account for the slackness of the current at the point, it is necessary to observe that the strongest part of it, instead of turning short round the point, preserves for some time the direction given it by the last steep bank, and is accordingly thrown obliquely across the bed of the river to the bay on the opposite side, and pursues its course along it till the intervention of another point again obliges it to change sides. In those few parts of the river which are straight, the banks undergo the least alteration, as the current runs parallel to them; but the least inflection of course has the effect of throwing the current against the bank, and if this happens in a part where the soil is composed of loose sand, it produces in time a serpentine winding. It is evident that the repeated addition made to the shelving bank before mentioned become in time an encroachment on the channel of the river, and this is again counter-balanced by the depredations made on the opposite steep bank, the fragments of which either bring about a repetition of the circumstances above recited, or form a bank or shallow in the midst of the channel. Thus, a steep and a shelving bank are alternately formed in the crooked parts of the river (the steep one being the *indented* side, and the shelving one the *projecting*). A continual fluctuation is induced in all the winding parts of the river; each meander having a perpetual tendency to deviate more and more from the line of the general course of the river by eating deeper into the bays, and at the same time adding to the points, till either the opposite bays meet, or the stream breaks through the narrow isthmus, and restores a temporary straightness to the channel.

Dr. Buchanan-Hamilton, in his MS. Account of Rangpur District, written about 1809, makes the following remarks regarding the condition of the Tista and its branches, in its course through that portion of Rangpur which has been recently transferred to Jalpaiguri District. 'The Tista enters this District at its northern extremity, where it is bounded by the country of Sikkim subject to Nepal' [now the British District of Darjiling], 'and continues for about twenty-three miles from thence to be the boundary between the Company's territory and that of the Deb Raja of Bhutan' [now the Falakata or Western Duars Subdivision of Jalpaiguri]. 'It is here an exceedingly large channel, from six hundred to eight hundred yards wide. At all seasons it contains a great deal of water and has a swift current, but its navigation is somewhat impeded by stones and rapids. The Tista begins to swell in spring, and usually rises two or three inches between the middle of April and the middle of May, owing to the melting of the snow in the mountains to the north; but no considerable increase takes place in its volume until the setting in of the rainy season. Immediately below Jalpaiguri town, the Tista has the Company's territory on both sides, and receives from the west a small river named the Kharla, on the western bank of which Jalpaiguri is situated. This stream takes its rise from among the lower hills in the Sikkim territory, and flows through this

District for about twenty-four miles. Canoes frequent it in the dry season, and in the floods large boats are able to ascend it for a considerable distance. A short distance below this, on the west bank of the Tista, is the mart of Madarganj. Although here a very large river, boats of a greater burden than 150 maunds cannot ascend the Tista beyond this point in the dry season. In the rains, boats of any size may come. A little below Madarganj, the Tista sends off a branch known as the Buri or Old Tista, and which at the time of Major Rennel's Survey was its principal channel. On sending off the Old Tista, the great channel turns eastward; and after passing Byankra, a mart in Fakirganj division, it receives the Kaya, a small stream which rises in Bhutan, and has on its banks a place of some trade called Jarpakri. The Tista then enters Kuch Behar.'

There is one phenomenon connected with both the Teesta and the Torsa which, according to some, has ceased in recent years. This is what is locally known as the "Teesta Guns" in rainy weather; especially about the months of May and June, these loud booming reports, emanating, as far as the ear can judge, from the river bed, used to occur with great frequency, usually in salvos of two or three. Similar, but less intense, manifestations occurred in the other Duars rivers, notably the Torsa. These detonations were often quite loud and of great volume, like the report of a cannon from some distance off. The writer distinctly remembers having heard them as a child in Jalpaiguri between 1922 and 1924. The Bhutan magistrate at Chamurechi told the writer in June 1953 that he still heard them. If it were exceptions of any kind, such as pockets of air or gas bursting under accumulated pressure, some visible manifestation would accompany the sound. It, therefore, seems probable that the sounds were not so local as they seem, but were heard over the whole area at the same instant, giving to each listener an impression of nearness but indefinite direction of origin. Dr. Charu Chandra Sanyal of Jalpaiguri, a gentleman who has lived all along in the district, however, told me in June 1953 that the last time he heard them was in 1918. Obviously this was a mistake, because the writer himself heard them in 1922-24.

The Karatoa—The Karatoa does not assume its real proportions in Jalpaiguri district. A discussion of the Karatoa will be found in Francis Buchanan-Hamilton's Account published elsewhere in this volume.

The Jaldhaka—The Jaldhaka river rises in the Bhutan hills and drains the eastern slopes of the Rishi-la mountain in the Darjeeling district, of which it forms the boundary. After entering Jalpaiguri, it flows in a southerly direction until it approaches the boundary of the district, where it takes a sweep to the east and enters Cooch Behar. It joins the Torsa in the Rangpur district and the combined rivers under the name of the Dharla flow into the Teesta. About a mile north of the Bengal-Duars railway line the Jaldhaka divides into two branches, the western

branch of which is called the Hathinala; these are spanned by two fine bridges each 600 feet long joined by a lofty embankment. The streams unite again about half a mile below the bridges. The Jaldhaka is a wide river but shallow in proportion to its size and is fordable everywhere during the cold weather; its current is very rapid and it rises and falls with great suddenness. Its principal tributaries within the Jalpaiguri district are the Murti, a considerable stream, flowing from the Dalinkot mountains in Darjeeling; and the Daiana, also a large stream, which rises in the Bhutan hills and falls into it on its east bank in *pargana* Moraghat, opposite Naothoa Hat. The Daiana is a particularly troublesome river, frequently changing its course and doing much damage to roads and cultivation. The Jaldhaka river is the boundary between the Mainaguri and Falakata *tahsils*.

The Duduya—The Duduya is formed by the combined waters of the Gaikata, Nanai, Angrabasha and other small streams, all of which rise in the north-west of the Duars. It flows in a south-easterly direction and enters Cooch Behar at Dakalikoba Hat. It is navigable by boats of fifty maunds as far as the Jalpaiguri-Alipur road. Its principal tributaries are the Kalua or Rehti, Barabank, Dim-Dima and Tasati, which rise in Bhutan hills or the north of the Duars and join it on its east or left bank.

The Mujnai—The Mujnai rises in the southern slopes of the Bhutan hills near Hantapara and, after a winding southerly course, enters Cooch Behar just below Falakata, up to which point it is navigable by boats of fifty maunds burden. The river is the boundary between *parganas* Lakhimpur and West Madari of the Falakata *tahsil*.

The Torsa—The Torsa rises in the Chumbi valley of Tibet, where it is called the Machu, and flows through Bhutan. It enters Indian territory by the Bala Duar and flows south through the Western Duars, separating the Falakata and Alipur *tahsils*; it enters Cooch Behar at the village of Nekobarpara. It is a large river and brings down much water in the rains. Its tributaries on the right or west bank are numerous small streams, none of which are of much importance, and on the left bank the Hansimara; the latter may be more properly described as a branch of the main stream, for it is thrown off by the Torsa, just above the point where that river enters the Western Duars and, after a course parallel to it of about 15 miles, it rejoins the parent stream.

In his report on Bhutan written in 1866, Lieutenant C. M. MacGregor gave the following description of the Torsa river:

The Torsa or Am-Mochu river is one of the principal rivers in Bhutan and takes its rise in the Chumulari range. Its total course from this point to where it issues into the plains at Bala Duar is said to be not less than 160 miles, of which some 70 miles are in Ti-

betan territory, where it waters the valley of Phare, passing by that place and by Chumbi and Rinchingaon, between which places it is crossed by numerous bridges communicating with the valleys on either bank. At Chumbi it is declared to be a deep and swift river, some forty yards broad; thence it continues flowing south for some 15 miles, where it first enters Bhutan territory, and being confined between high, precipitous and rocky banks, it rushes past with great fury. It then flows on, and a mile or two above the point where it is crossed by the road from Dalinkot, it gives a turn to the east. It is here crossed by a bridge, which is described as a compound of a suspension and pier bridge, and Eden informs us that it is here "a very beautiful river", deep, very rapid, and broad; full of enormous boulders which make it one continuous line of white, sparkling foam. Its height at this point is 3,849 feet, and it runs through a beautiful small valley, receiving on its left, a short way down, the Sukechu, a small torrent, and immediately afterwards the Sechu. From this last point it changes its direction south-east and continues rushing impetuously on, enclosed again between high precipitous cliffs, and receiving at some twenty miles the Samchu, its first considerable feeder, and which rises in the Te-yong-la. Some seven miles beyond, it is crossed by a bridge on the main road from Paro to Chamurchi; thence its course becomes still more southerly till just before reaching the Bala it turns once more due east. At this point it takes the name of the Torsa, and is even in dry weather, a fierce, swift river having an average depth of not less than 4 feet and being fordable only with very great difficulty. Just where it takes its last turn to the east in the mountains, it is joined by the Penchu, a large mountain stream rising in the Loomla.

The Kaljani—The Kaljani is formed by the combined waters of the Alaikuri and Dima, which first take the name of Kaljani after their junction at Alipur, the subdivisional headquarters. The united stream has a course of only a few miles in the Western Duars, and for a few miles further its right bank marks the boundary between the district of Jalpaiguri and Cooch Behar. The Kaljani proper has no tributaries of any importance on its right or west bank; but on the left or east bank it receives the waters of the Nonai, Cheko and Gadadhar. The Alaikuri, which supplies the greatest portion of the water to the Kaljani, is a fairly large river, which rises in the Bhutan hills, and after a southerly and southeasterly course through the Western Duars, joins the Dima at Alipur. Its principal tributaries on the west or right bank are the Gabur Basra, Buri Basra and Bania rivers and on the east or left bank, the Nimitijhora and Paror. The Dima is also a stream of some size, rising in the lower Bhutan hills near Buxa, and flowing south to its confluence with the Alaikuri. Its only tributaries of any importance are the Gram on the right or west bank, and the Doria on the left or east. The Alaikuri and Kaljani rivers mark the boundary between *parganas* Chakwahketi and Buxa.

The Kaljani is navigable for large boats up to Alipur and a considerable trade in timber is carried on by means of them.

The Raidhak—The next large stream to the east is the Raidhak, which rises close to mount

Chumalarhi in Tibet. It flows southwards through the Western Duars and enters Cooch Behar below *taluk* Burujkuti. In its northern course through the district the river forms a large island by throwing off a branch stream called the Mainagaon *nadi*, which leaves the Raidhak at the point where it enters the district and joins it again about ten miles lower down. The old course of the Raidhak forms the boundary between the Alipur and Bhalka *tahsils*, but in 1905 the river came down in high flood and deserted its former bed which lies to the east of the Raidhak Tea garden; it swept across country and poured its waters into several small streams to the west of its former course, one of which the Dharlajhora, is now the main stream and runs to the west of the Raidhak Tea garden.

The Sankos—The right bank of the Sankos river is the boundary of the district and, before the Partition, marked the boundary between the provinces of Bengal and Assam. Its principal tributary on its right or west bank is the Glentan. Both the Raidhak and Sankos flow into the Brahmaputra, a few miles below Dhubri.

Rivers and streams in Jalpaiguri district are liable to be interfered with by private hands and, being entirely foot-hill rivers, are also liable to shift their courses according to the state of land formation.

The question of interference with the natural course of rivers is one of special importance in a tract where most of them are swift flowing hill streams, debouching on the plains usually without strong high banks to contain them. A period of drought will reduce all but the big rivers to a mere trickle, but a heavy fall of rain in the hills will convert them into raging torrents difficult to control and easy to divert. A great mistake has been made in the past in not leaving a strip of jungle along the banks of all such water courses, for this has proved itself to be the only natural means of exercising any real control over their movements. Not only have the banks in too many cases been cleared for cultivation, but no effective check has been possible over the cutting of irrigation channels, locally known as *jampoïs*, and other forms of activity in the beds of rivers. The result has been that huge areas have been ruined by the rivers changing their courses and such changes in very many cases are directly traceable to a *jampoï*. The first flood of the season will scour the *jampoï* into a big channel, and each successive spate will continue the work till often the river turns bodily down the *jampoï* and lays waste a whole tract of country. Similar results not infrequently follow from efforts at river training on the part of tea garden managers and *jotdars*. A particular block of tea or arable land may be saved but at heavy cost to the unfortunates further down. On the other hand much land in the Duars will go out of cultivation

if irrigation is entirely prohibited and much damage will be caused to tea gardens, jote lands, railways, roads and forests if river training is entirely vetoed. It seems therefore to be incumbent on Government to do something to regulate such necessary enterprises, applying in the Duars the results of experience gained elsewhere and taking steps to accumulate local experience as a guide for future action. *Jampoïs* are necessary unless a great deal of revenue is to be foregone. But they must be scientifically placed, and in every case where a mountain torrent is tapped, a sluice gate and protective works should be erected. River training is necessary; in the case of some rivers it is a very acute problem, notably the Tista, the Chel, the Daina, the Rehti, the Pagli and Sukti, the Pana, the Kaljani and the Rydak. The Tista threatens to sweep away a whole section of the Bengal Duars Railway on the one side and a large portion of Jalpaiguri on the other.

The policy of the Government in the 19th century was one of *laissez faire*. But in the present century a District Embankment Committee has been in existence under S. 21 of the Embankment Act of 1882 (Act II of 1882). The members of the Committee have been the Deputy Commissioner, the Engineers of the Works and Buildings and Irrigation Departments, the Railways, the Divisional Forest Officers, and representatives of the Indian Tea Association and the Indian Tea Planters' Association. This Embankment Committee has, from time to time, done some river training and drainage. It should be mentioned here that the innumerable small streams all require so much attention that it is very difficult to cope with them. Hitherto the duty of giving that attention has devolved on those whose interests were immediately affected, and they have been tacitly allowed a free hand in doing so. In addition to the conundrums of river training and irrigation, perplexing cases have arisen from time to time with regard to drainage; the clearing of jungle and planting of tea have also brought about special difficulties and the Deputy Commissioner, apart from the Embankment Committee, has constantly to keep a close check on private interference with rivers.

The following brief account of rivers and streams which have shifted their courses lately provides a sample of the problem the district has to face by its situation in the Himalayan foot-hills.

The Torsa—This river started its eastward movement some 30 years ago, and the movement still continues. During 1932-3 the movement became menacing, and it was felt that the Range headquarters buildings at Nilpara were in danger. Protective bunds were erected during 1934-5 to check further progress, but the condition turned for the worse in the following year when

Government deputed an officer of the Irrigation Department to investigate and report. During 1938-39 it was considered futile to carry out any more protective works, and on the advice of the special officer deputed by Government, the Range headquarters buildings at Nilpara were dismantled and transferred further east to their present sites.

The Malangi—This river has been gradually moving east. The safety of the Range headquarters buildings at Chilapata being threatened, these were dismantled and transferred further east to their present sites.

The Jainti—The movement of the course of this river has been irregular. It threatened the Range Officer's rest house at Panbari during 1934-35. During 1939 and the following years a part of its current broke through its western bank only a few miles below Jainti Station, and sweeping through the portions of the Jainti and Panbari blocks discharged into the Bala river through the Sukhrinjhora causing devastation all the way.

The Rydak—During 1930 the Rydak river left its old bed and moved east near Teamari. During 1933 it broke through the forests at Newlands on the east, and at Chipra on the west. The following year it eroded a part of the Central Rydak Block.

The Sankos—The river moved east during 1930, but during 1934-35 it eroded some portions of the Bhilka Reserve.

The Gabur-Basra—It started moving east during 1933 and eroded some forest areas. With the permission of the Embankment Committee the Rangamati Tea Estate tried to check the movement, but even then the river cut about a mile of new channel through the forest during 1938 after breaking through its Western bank.

Geology—With the exception of the hilly northern fringe, the whole of the district is covered by alluvial deposits. The alluvium consists of coarse gravels near the hills, and sandy clay and sandy loam further south. A patch of black clay occurs in the area between the Tista and the Jaldhaka.

The Buxa-Jainti hills are composed of a series of rocks, known as the Buxa series, which consist of variegated slates, quartzites and dolomites, and are fringed on the south by low hills of Upper Tertiary (Nahan?) strata. A thin zone of Gondwana sandstones and shales with anthracitic coal beds intervenes between the Tertiaries and the Buxa series. North of the 2-3 miles wide band of Buxa series lies a series of phyllites, schists and quartzites, known as the Daling series. All these formations have a general east-west strike and dips are generally northwards. The relationship between the Buxa series and the Daling series is obscure; both these forma-

tions are however generally considered to be of Pre-Gondwana age.

West of the hills, the Tertiaries are not developed in the foothills region for a length of about 40 miles. They are again soon in the foothills, west of the Jaldhaka. The Buxa series extends westwards along the northern fringes of the district up to the Rehtee nadi, but west of the Buxa hills, it lies mostly in Bhutan territory.

Coal is found to occur in the Gondwana rocks near Jainti. This coal is frequently anthracitic and occurs interbedded with grey carbonaceous sandstone, it is mostly in lentils scarcely exceeding 1 foot in thickness.

Lignite occurs in patches throughout the entire length of the tertiaries. Good deposits are found on the west side of the Jainti river, about 1½ miles from Jainti. This lignite is of good quality, but much of its economic utility is lost owing to its scattered distribution.

Iron ores, mostly hematite, resulting from the alteration of banded hematite-quartzite interbedded with slate and quartzite, are locally developed near Gaopata ($26^{\circ}46' : 89^{\circ}31'$), north of Raimatong ($22^{\circ}47' : 89^{\circ}31'$), and elsewhere. The ores are of low to medium grade and the supply appears to be rather limited.

Disseminations of copper ore occur in the quartzites in the Buxa Duars. No economically workable deposit has however been located.

Argentiferous galena, cerussite, sphalerite and limo limonite are found in the dolomitic band of Buxa Duars. The ore is associated with grey dolomite in small pockets. A thorough prospecting for the minerals is desirable.

The dolomitic limestone bands in the Buxa Duars form the most important mineral deposit in the area. Dolomite is found all along in the hill range from near Lapchaco ($26^{\circ}45' : 89^{\circ}36'$) to Raidak ($26^{\circ}46' : 89^{\circ}43'$). A small band of dolomite also occurs along a scarp two miles north of Raimatong ($26^{\circ}47' : 89^{\circ}31'$). The rock is pure dolomite with occasional pockets of calcite. During the monsoon the streamlets bring down innumerable large boulders of dolomite to the base of the hills, thus forming a very good natural supply of the material. The lime obtained from dolomite is of good quality and of good tensile strength. It is also used for fluxing purposes.

Deposits of calcareous tufa and magnesium sulphate occur at various localities in the foothills region, such as near Jainti and Chunarhati at Bandapani falls, etc. Large quantities of road and railway ballast are obtained from the gravels and shingles of Jainti river.

There is a mineral spring near Buxa, about

three miles from Tashigaon, where Bhutias suffering from skin diseases go and bathe.

The following are the results of analysis of

Name of place (locality)	Moisture (per cent.)	Organic Carbon (per cent.)	Loss on solution (per cent.)
Falakata	..	..	..
Siliguri	..	..	..
Maynaguri farm	1.52	0.475	2.1
Alipur Duar	..	..	..

Flora—The Darjeeling and Sikkim districts appear to have monopolised the attention of naturalists in the study of flora. As a result the systematic study of the flora of the Terai and Duars has suffered. The only authoritative study was made in 1878 by J. S. Gamble whose observations were published in 1878. In 1929 A. M. Cowan and J. M. Cowan revised J. S. Gamble's book and published "The Trees of Northern Bengal, including Shrubs, woody clim-

bers, bamboos, palms and tree ferns". This book, now out of print, remains one of the most exhaustive lists of the flora of the northern district of Bengal, but even this book has a heavy bias in favour of Darjeeling. W. W. Hunter, in his Statistical Account of Jalpaiguri, does not give any detailed account of the flora, nor does J. F. Gruning in his District Gazetteer. The following account of (a) trees and shrubs, (b) fruit trees, and (c) grasses, is reproduced from D. H. E. Sunder's Settlement Report of 1895.

Coarse sand (per cent.)	Fine sand (per cent.)	Silt (per cent.)	Nitrogen (per cent.)	PH.
48.46	35.5	10.5	0.109	6.6
..	..	..	0.122	6.8

(A) TREES AND SHRUBS

Serial No.	Vernacular	Botanical name
1	..	Actinodaphne obovata
2	Bahera	Terminalia belerica
3	Bogri	Zizyphus jujuba
4	Bot	Ficus bengalensis
5	Buhooari	Cordia myxa
6	Champ	Michelia champaca
7	Chilauni	Schinus wallichii
8	Chestnut	Castanopsis tribuloides
9	Chatiwan	Alstonia scholaris
10	Dabdabi	Garuga pinnata
11	Dingari	Chisocheton paniculatus and Dysoxylum pallens
12	Endi	Ricinus communis
13	Dalchiwari	Elaeocarpus aristatus
14	Chekio	Elaeocarpus robustus
15	..	Elaeocarpus monocera
16	Kula-aja	Ehretia acuminata
17	Ambake	Eugenia formosa
18	Gab or Gendu	Diospyros embryopteris
19	Gineri	Premna integrifolia and Premna latifolia
20	Gambhari	Gmelina arborea
21	Pitali	Trewia nudiflora
22	Chec-kung	Glochidion sp.
23	Grape	Vitis lanceolaria
24	Goehlo	Callicarpa arborea
25	Gophal	Bassia butyracea
26	Horse chestnut	Aesculus indica
27	Jhao	Tamarix dioica
28	Kachnar	Bauhinia variegata
29	Khair	Acacia catechu
30	Kumb	Careya arborea
31	Kooail	Trema orientalis
32	Kagura	Bischofia javanica

Serial No.	Vernacular Name			Botanical Name
	2			3
33	Kimbu	..	..	Morus laevigata
34	Lampatia	..	..	Duabanga sonneratioides
35	Sanu-Pa henle	..	..	Litsaea salicifolia
36	Kawala	..	..	Litsaea sebifera
37	Lali	..	..	Machilus glaucescens
38	Madar	..	..	Calotropis gigantea
39	Mainakat	..	..	Tetrameles nudiflora
40	Mandania	..	..	Acrocarpus fraxinifolius
41	Malagiri	..	..	Cinnamomum glanduliferum
42	Mohwa	..	..	Engelhardtia spicata
43	Malota	..	..	Macaranga indica
44		..	..	Macaranga roxburghii
45	Nim	..	..	Melia azadirachta
46	Olive	..	..	Olea dioica
47	Pakar	..	..	Ficus cordifolia
48	Panisaj	..	..	Terminalia myriocarpa
49	Palas	..	..	Butea frondosa
50	Pipal	..	..	Ficus religiosa
51	Jhankrikath	..	..	Phoebe lanceolata
52	Parari	..	..	Stereospermum chelonoides
53	Patmoro	..	..	Litsaea semecarpifolia
54	Bor	..	..	Ficus elastica
55	Saj	..	..	Terminalia tomentosa
56	Sal	..	..	Shorea robusta
57	Sida	..	..	Lagerstroemia parviflora
58	Simul	..	..	Bombax malabaricum
59	Singoli	..	..	Cinnamomum tamala
60	Siris	..	..	Albizia procera
61	Sohajna	..	..	Moringa pterygosperma
62	Sissu	..	..	Dalbergia sissoo
63	Sinduria	..	..	Mallotus philippinensis
64	Talgach	..	..	Borassus flabelliformis
65	Tetool	..	..	Tamarindus indica
66	Toon	..	..	Cedrela toona
67	Tantri	..	..	Dillenia pentagyna
68	Thali	..	..	Turpinia pomifera
69	Udal	..	..	Sterculia villosa

The sissu, khair and sal are used in the manufacture of agricultural implements and house buildings.

(B) FRUIT TREES

The following are the fruit trees common in the Duars :

Serial No.	Vernacular Name	English Name	Botanical Name	Remarks
	1	2	3	4
1	Am, Amb	Mango	Mangifera indica	A large, handsome, evergreen tree. The wood is used for planking, furniture, and oil presses. Leaves are used at Rajbansis' marriage ceremonies. Most of the mango trees met with are of the ungrafted, common country kinds. The mangoes are generally stringy and have a small, black insect within them. They also have a strong taste of turpentine. Mango grafts of the best Bombai, Malda, and other kinds have been planted in some tea gardens and in Alipur in the compound of the Subdivisional Officer's bungalow. From one of them I have obtained the best mangoes I have ever seen. Green mangoes are cut up and dried by the natives, or pickled in salt and used for flavouring curries.

(B) FRUIT TREES (contd.)

Serial No.	Vernacular Name 1	English Name 2	Botanical Name 3	Remarks 4
2	Anaras, Supari	Pine-apple	Ananus sativus	The plant succeeds well in the Duars, but few natives grow it. The delicious flavour of the fruit is well known; the best are obtained at Buxa, where you may find the plant in the regimental gardens.
3	Alu	Peach	Prunus persica	If carefully cultivated this tree grows well in the plains of the Duars. Very good fruit has been obtained from trees in Alipur. There are trees at Buxa; but fruit does not ripen.
4	Ata	Custard apple	Anona squamosa	A small tree which has been introduced in the district and thrives well; but is grown by few people.
5	Aola		Embllica officinalis	A small tree. Fruit is sold in markets and used for pickles. The juice of the fruit is very acid and is used by Rajbansis for preserving bones of deceased people until they can be taken to the Ganges to be thrown into that river.
6	Bor or Bogri	Jujuhe tree	Zizyphus jujuba	A thorny small tree, common all over the Duars. The wood is tough and durable. Yields good charcoal and valuable as fuel. The fruit is collected and dried for use in curries as a whet to the appetite. The leaves are useful for fodder and are eagerly eaten by cattle. The lopped branches are often used for fencing.
7	Bangi	Musk melon	Cucurbita moschata	The plant is cultivated on the Tista char lands by men who come from Purnea and Bihar districts for this purpose. The fruit is appreciated by the natives.
8	Bel	Bengal quince	Aegle marmelos	A small hardy tree, with beautiful foliage. The fruit is used medicinally, and the pulp makes a pleasant sherbet.
9	Chalta, Panchkal		Dillenia indica	The fruit is eatable and has a pleasant flavour, though acid. The tree is generally found on the banks of jhoras and small hill streams. It is an ornamental tree and affords good timber, especially valuable for its durability in water. Leaves are hard and rough and are said to be good for polishing furniture.
10	Dalim	Pomegranate	Punica granatum	A small tree which has been introduced in the Duars and grows well; but is cultivated by few natives.
11	Daao		Artocarpus lakoocha	A large handsome tree. There are two varieties. The fruit, when ripe, is sweet and is eaten by the natives.
12	Golapjam	Rose apple	Eugenia jambos	A small evergreen tree which has long been introduced in the Duars and grows well. The fruit is insipid; but has an odour of rose.
13	Ghora-jamri	Lemon	Citrus medica, var limonum	Is a small tree common in the Duars. Fruit is eaten by the natives.
14	Hariphal		Phyllanthus distichus	A small tree common in the district. Fruit is cooked by the natives in curries and is also eaten raw.
15	Jambura	Pumelo or shaddock	Citrus decumana	Grows well and is a handsome tree. The fruit is esteemed by the natives.
16	Jamri	Sour lime	Citrus medica, var acida	Common in the district.

(B) FRUIT TREES (contd.) .

Serial No.	Vernacular Name 1	English Name 2	Botanical Name 3	Remarks
17	Jalpai	Olive	Elaeocarpus serratus	A very handsome middle-sized tree which is found throughout the district. The wood is hard and makes good charcoal. The leaves are useful as fodder. The fruit is about twice the size of a Spanish olive, and makes a splendid pickle, and cooked in curries is a good whet to the appetite. Jalpaiguri obtains its name from this tree.
18	Kadam	Kadam	Anthocephalus-damba	A large handsome quick-growing tree. The ripe fruit is eaten by the natives. The timber is soft and brittle and is used as fuel.
19	Kamranga	Bilimbi tree	Averrhoa bilimbi	A middle-sized handsome tree which is common in the district. The fruit is eaten ripe and is also cooked in curries. Unripe fruit, if eaten, are said to cause fever. A good preserve may be made with ripe fruit.
20	Kharmuja	Melon	Cucumis melo	A trailing plant which the natives cultivate for its fruit, which is esteemed for its cooling properties.
21	Karaunja	Karanda	Carissa carandas	A large evergreen shrub which grows well in the Duars, but is not much cultivated. The wood is hard and excellent for fuel. It is also a good hedge plant. The fruit is purple when ripe. When green it makes a good preserve, and cooked in curries is an excellent whet to the appetite.
22	Kela	Plantain	Musa sapientum	There are different varieties of plantain in the district, namely, Malbhog, Sachi, Chenga, Manua, Atia, Kacha Kola, Kaorupi, and Kaoatuti. The tree is cultivated throughout the district and is much valued. The fruit is largely eaten, both ripe and green, cooked as a vegetable, and is very nutritious. Rajbansis use Malbhog plantain for all religious ceremonies. It is considered the best plantain of the district. When children suffer from bowel-complaints they are fed with Kaorupi plantains and sugar as a remedy.
23	Kalajam, Jaman	Blackberry (?)	Eugenia jambolana	A very handsome evergreen tree, which grows well in the Duars. Fruit is eaten by the natives. The wood is reddish brown, tough and hard. It is worth cultivating along roadsides, and once established it needs little attention.
24	Kathal	Indian Jack tree	Artocarpus integrifolia	A large evergreen handsome tree, which gives a good shade, and is therefore planted in market grounds and roadsides. It is quick-growing, and valuable for its fruit, which is much esteemed by the natives. The wood may be made into furniture of all kinds, for which it is well adapted. The leaves are good for fodder, and the branches are eaten by elephants. It is one of the most useful trees in the Duars and is valued by the natives.
25	Kagji Jamri	Lemon	Citrus medica, var limonum	A small tree which thrives well in the district.
26	Lichu	Lichi	Litchi chinensis	A small tree which grows exceedingly well in the Duars. The fruit is very luscious and is esteemed by Europeans and natives alike.
27	..	Loquat	Eriobotrya japonica	This well-known fruit tree thrives in the Duars. It may be found in Alipur, where it yields a good crop of fruit annually.

(B) FRUIT TREES (Concl.)

Serial No.	Vernacular Name 1	English Name 2	Botanical Name 3	Remarks
28	Natko			A small tree. Fruit grows in bunches and is eaten by the natives.
29	Newa Katal	Bullock's heart	Anona reticulata	A small tree common in the Duars. The fruit is good and is eaten by the natives.
30	Panigal	Panial	Flacourtia cataphracta	A small tree. The wood is coarse-grained, hard, and durable. The fruit is eaten by the natives.
31	Pani Jamri	Citron	Citrus medica, var medica	Is found all over the district. Fruit is sold in markets.
32	Phersa		Grewia sapida	A small shrub which grows in high wasteland throughout the Duars. Its fruit is acid and of agreeable flavour and is eaten by the natives.
33	Santra	Orange	Citrus aurantium	Oranges succeed well in the hills at Buxa and Totopara at various elevations from one thousand to four thousand feet. The trees require careful cultivation. There used to be a good orange grove at Santrabari, below Buxa, and another at Totopara; but most of the large trees are dead, owing to neglect on the part of the cultivators.
34	Tam Supari	Guava	Psidium guava	A small tree which is cultivated by the natives in the Duars and grows well. The fruit is excellent and is much esteemed by the natives. Superior varieties were planted in the compound of the Subdivisional Officer's house at Alipur, and yielded good, fleshy fruit.
35	Tormul	Papaya, Papita	Carica papaya	A handsome, but small, soft wooden, and short-lived tree. The fruit is sweet and pleasant, and the unripe fruit is eaten cooked as a vegetable and is excellent. The tree is easily grown and does well throughout the Duars.
36	Tut	Mulberry	Morus alba	A handsome, middle-sized, deciduous tree, which thrives well in the Duars. The fruit is of many varieties and of all shades of colour, from white to a blackish purple, and is eaten by the natives.

(C) GRASSES

The principal jungle grasses of the Duars are :

- (1) Bamboo (*Bambusa stricta* and *Arundinaea*). Three kinds of bamboo are grown :
 - (a) Borobasa, a very thick kind, used for posts of huts; (b) makla, a thinner kind, used for roofing huts and making fences; and (c) Jaota, used for fuel. There is another large variety, obtainable only in the hills (*Dendrocalamus Hamiltonii*), which is cut up and made into cylinders for keeping milk and curd.
- (2) Hogla (*Typha elephantina*), eaten by elephants, and also made into matting; also useful for making guddies for elephants. (Actually more a reed than a grass.—A.M.)
- (3) Elua, the best grass for thatching.
- (4) Dubh (*Cynodon dactylon*), one of the best of grasses for fodder.
- (5) Kasia (*Poa cynosuroides* ?), the sacred grass of the Hindus. It is a coarse grass growing in the dry beds of streams and in low-lying moist places. Elephants and buffaloes eat the young grass, and the old grass is used for fencing and thatching.
- (6) Gan-binna (*Andropogon nardus*). The leaves are fragrant; cattle do not like it.
- (7) Khus-khus (*Andropogon muricatum*). The root of this grass is used for tatties in other districts. The grass is found growing luxuriantly in waste lands.
- (8) Munj (*Sacharum munja* ?) is used for tatties and for thatching.
- (9) Nal (*Amphadonax karka*) is used by Meches and Garos for fencing and matting.
- (10) Khagra (*Sacharum spontaneum* ?) is used for thatching.

The following account of the forests of Jalpaiguri district and the diseases and pests they are liable to, is borrowed from E.O. Shebbeare's Departmental Notes.

The following is a summary of the description given by E.O. Shebbeare :

The Jalpaiguri forests may be divided into five main types :

- I. River Forests
- II. Plains Forests
- III. The Plateau Type
- IV. Hill Forests
- V. Savannahs

I River forests—Pure *khair* (*Acacia catechuoides*) and *sissu* (*Dalbergia sissoo*) forest with *khassila* grass (*Saccharum spontaneum*) comes up on newly formed sand banks in the beds of rivers which rise in the hills.

Later, other species spring up under the *khair* and *sissu*, *gineri* (*Premna* spp.) being the first to appear, followed by various kinds of *siris* (*Albizia* spp.), *simal* (*Bombax malabaricum*), *sidha* (*Lagerstroemia parviflora*) and many more.

As the forest changes, distinct types become evident, namely :

(1) *Simal* or *siris* or both with a mixture of other species of which the commonest are *sidha*, *tun* (*Cedrela toona* and *microcarpa*), *gamari* (*Gmelina arborea*), *kainjal* (*Bischofia javanica*), *pitali* (*Trewia nudiflora*) and *kadam* (*Anthocephalus indicus*). *Khair* and *sissu* may or may not be present.

(2) Mainly *pitali* and *kainjal* with a few *chalta* (*Dillenia indica*) and other species. *Tun*, *gamari* and *kimbu* occur where the water-level is not deep and *kimbu* (*Morus laevigata*) appear to do well in this type which occurs where the water-level is not deep.

(3) Mainly *tanki* (*Bauhinia purpurca*). This type is commonest in river beds which adjoin the dry mixed and plateau type where permanent water is fairly deep.

(4) A mixture of many species, of which the most characteristic are *harra* (*Terminalia chebula*), *dudhi* (*Wrightia tomentosa*), *dhamon* (*Grewia laevigata*), and *barkauli* (*Casuarina graveolens*). *Tun* grows to large size in this type which is not very common and hardly exists west of the Torsa.

II Plains forests—The forests of the plains, away from the influence of these hill-streams, consist of several types intimately mixed and gradually passing into one another.

Five main types may be distinguished : (1) Evergreen forest, (2) *Sal* forest, (3) Wet mixed forest, (4) Dry mixed forest and (5) *Mallata* forest.

(1) *Evergreen forest*—This type is found close to the streams which rise in the plains and

occupies a very small area in comparison with other types.

The most typical trees are : The *horse chestnut* (*Aesculus punduna*), *ambokch* (*Eugenia formosa*), *chalta*, *gobre* (*Echinocarpus sterculiaceus*), and some kinds of *katus* (*Castanopsis* spp.), and of the more valuable species, *bhalukat* (*Talauma hodgsoni*), *lattar* (*Artocarpus chaplasha*), *gokuldhup* (*Canarium sikkimense*), *lali* (*Amoora wallichii*), *lampate* (*Duabanga sonneratioides*) and *malagiri* (*Cinnamomum cecidodaphne*).

(2) *Sal forest*—This grows on the best drained land and consists typically of at least 90 per cent. of *Sal*, the remaining 10 per cent. being chiefly of deciduous species such as *bahera* (*Terminalia belerica*), *sidha*, *tantri* (*Dillenia pentagyna*), *udal* (*Sterculia villosa*), and *kumbhi* (*Careya arborea*). A higher proportion of evergreen species is now commonly found in the more southern *sal* forest which is very deficient in reproduction.

(3) *Wet mixed forest*—This type consists mostly of evergreen species but must not be confused with the type described above as evergreen forest.

This wet mixed forest appears to be a recent type, which has spread under fire protection and is encroaching on the *sal* forest. The most common tree is *kazela* (*Machilus* spp.) which, in more or less water-logged situations, often forms an almost pure crop. Other species found are too numerous to mention and are mostly evergreen. *Laurcls* are plentiful. The most valuable tree found here is *champ* (*Michelia champaca*).

(4) *Dry mixed forest*—This is found chiefly in the northern parts of the Division and approaches most nearly to the plateau type into which it merges. It consists mostly of the fire-resisting associates of *sal* (*bahera*, *sidha*, *tantri*, *udal* and *kumbhi*) together with *simal*, *tanki*, *lali* and *chilaune* (*Schinus wallichii*).

(5) *Mallata forest*—This is a type quite distinct from any other, consisting typically of pure *mallata* (*Macaranga denticulata*). It is found on old savannah or village sites which have been protected from fire for a few years. The ground underneath is often bare except for a carpet of dead leaves.

III The plateau type—This type is similar to the dry mixed type and the same species are common, but it has certain very characteristic features. *Sal* is only found over comparatively small areas, but, where it does occur, it is of excellent growth and nearly pure. The most typical tree of the plateau is *chilaune*, but *tun*, *lampate*, *maina* (*Tetrameles nudiflora*) are also common. In Upper Tonda in one place almost pure *nageswar* (*Mesua ferrea*) occurs in this type. Evergreen trees are few.

IV Hill forests—The distribution of species in the hills depends on elevation and, to some ex-

tent, on position (whether in the *jhōras* or on the ridges).

Up to 3,000 feet elevation the most common large trees are *katus*, *mandani* (*Acrocarpus fraxinifolius*), *bhalukat* and *lampate*.

Other valuable species are *tun*, *kimbu*, *panisaj* (*Terminalia myriocarpa*), *gokul* (*Ailanthus grandis*), *champ* (*Michelia oblonga* and *cham-paca*) and *chickrassi* (*Chukrasia tabularis*).

V Savannah forests—Since fire-protection these occupy a much smaller area than formerly. They occur in moist types of forest and are generally classified roughly as high and low-level savannahs.

High-level savannah consists chiefly of *batta* (*Saccharum narenga*), *Saccharum arundinaceum* and the much shorter *ulu* (*Imperata arundinacea*).

Low-level grasses are *nal* (*Phragmites karka*), *Erianthus elephantinus* and *Saccharum procerum*.

The typical trees in burnt high-level savannah are *sal* (in clumps), *kumbhi*, *tantri*, *piyamon* (*Eugenia operculata*) and *palas* (*Butea frondosa*). After fire-protection they fill up chiefly with *mallata*, or on less well-drained land, with *kazela* and *jhingni* (*Eurya* spp.).

Condition of the forest—These forests still contain some of the finest *sal* to be seen anywhere but generally speaking the *sal* forests appear to be dying out. Fire-protection and the resultant invasion by evergreen species continue to turn these first quality *sal* areas into a wet-mixed type. *Sal* in such areas is subject to attack by various root fungi. Some destroy the anchor roots and windfalls are common. A heavy toll is taken by cyclones which fortunately are not frequent. In the middle-aged and pole crops of *sal* small patches continue to die out here and there. Thus, the transformation of *sal* forests into a wet-mixed type proceeds unchecked. The deterioration in the health of *sal* appears to have brought in more enemies—the *ganj* fungus and *loranthus*.

Grass areas in the *sal* forests continue to diminish in size due to encroachments by tree species.

Natural regeneration of *sal* is lacking, evergreen species come up in the openings caused in the *sal* forest. Natural regeneration of *khair* and *sissu* is found on newly formed sand banks.

A large area has, however, been clear-felled and regenerated artificially with *sal* and other valuable species.

In the northern tract which is dry the crop has been opened up by fuel fellings. Natural regeneration is scanty and due to the scarcity of forest village labour the artificial regeneration did not keep pace with the fellings in the early years of forest history.

The origin of the *sal* forests is intimately connected with the Savannah lands of the Duars. These are of two types, the low-level and the

high-level. While the former occupy low-lying moist ground usually liable to inundation and therefore unsuitable for the growth of *sal*, the latter are typical *sal*-producing tracts and occupy the better drained lands.

The Inspector General of Forests in his report on the *sal* forests of the Duars in 1915 mentioned that the quality of *sal* produced is finer than he had seen in any other part of India, the development of other trees on areas not suitable to *sal* was exceptionally good also, and the buttturn of *sal* was remarkable for the high percentage of sound timber; while the proportion of the *sal*-bearing area, which was fully stocked was small, probably not exceeding 33 per cent. There is an enormous waste of space through insufficient stocking and the waste of productive ground in this Division is, if anything, even greater than in Jalpaiguri.

In the *sal* area of the Buxa forest there is a belt of dry country along the foot of the hills, which is due to the occurrence of a boulder bed. The streams running south from the hills disappear shortly after reaching this formation, the width of which varies but does not exceed 7-9 miles, and do not come to the surface again until it is succeeded by beds of clay. This state of affairs gives rise to two distinct types of forests, (1) the high-level (known elsewhere as the *Bhabar* type), i.e., the dry areas where the subsoil water-table is at a great depth below the surface, and (2) the low level where the reverse condition prevails.

On suitable soil there is not much difference between the growth of *sal* in these two types, and the main difference between them lies in the undergrowth and associate species. The soil covering in the best of the high-level type becomes a more or less dense mat of *sau* grass which gradually decreases in density southwards until in the low-level type a dense mass of evergreen shrubs and trees of small size covers the ground almost completely.

The general condition of these forests is summarised in the following extracts from the last Working Plan :

Before fire-protection was attempted these forests presumably resembled unprotected forests in similar situations such as may now be seen in the Baikuntapur estate (south of Sivoke) and along the Eastern Bengal Railway between Bansbari and Sapotgram stations. These unprotected forests consist of patches of *sal* mixed with a small proportion of other fire-resisting species on the best drained ground, while evergreen species occupy the moist land along the *jhōras*. On land not sufficiently well drained for *sal* nor moist enough to escape fires in the dry season there is usually nothing but high grass. It was hoped that fire-protection would cause the *sal* to spread into these grassy blanks, but, though this may have happened at first, the *sal*-bearing area has not extended much in the last 20 years, at any rate there are no considerable areas under *sal* now which are not shown as being under *sal* in Mr. Haines' stock-map made about 1898. What happened on the introduction of fire-protection was that evergreen species, formerly kept out by fires, not

only filled up the Savannahs and so formed the present mixed forests, but also invaded the *sal* areas as an under-growth. Either this invasion of evergreen species or some other result of fire-protection appears to have prevented the establishment of *sal* reproduction; in many places where there is a good stock of mature *sal*, the sapling and pole stage is entirely absent. Genuine saplings, as distinct from coppice shoots, may almost be said not to exist in these forests and, in certain parts, even the existing *sal* appears to be dying out.

If the above account of the development of these forests after fire-protection is correct it would follow that, with the exception of *sal*, a few fire-resisting associates of *sal* and the evergreen forest in the immediate vicinity of *ghoras*, there would be no trees dating back before fire-protection, and such appears to be the case. The linear enumeration carried out in the plains forests of the Buxa Range showed that there were (omitting *sal*) only about six trees per acre over 4' in girth on an average over the whole area. In the northern or waterless tract the average was about 8 and in the southern about 5 to the acre. The prevalence of trees in the north—nearly all of them of fire-resisting species—may be due to the *sau* grass (*Pollinia ciliata*), which is common here, having mitigated the intensity of fires and so brought about a partial protection earlier than elsewhere.

If it is a fact that most trees other than *sal* are immature, the volume of such timbers must be increasing yearly.

State of *sal* regeneration—Dr. Troup, in his valuable contribution on the "Forests of the Duars", appended to the note published in 1915 by the Inspector-General of Forests, discussed the problem of natural regeneration of *sal* at some length. Although his conclusions as summarised below, indicate the state of *sal* regeneration over a decade ago, they hold good even now and natural regeneration of *sal* is, as a rule, conspicuous by its absence. There are practically no established saplings of recent origin throughout the fire-protected forests of the Duars, though young seedlings or thin whipple shoots from the bases of former saplings which have been killed by suppression, are common enough in places; none of these appear ever to establish themselves as healthy saplings. As an exception to the general rule saplings, presumably of recent origin, are to be found in the following situations :—

- (1) Round the edges of the forest and along the sides of roads and lines (including fire-lines), previously cleared and burnt, which have been abandoned as such and protected from fire for a few years.
- (2) On certain high-lying, well-drained localities in the plains, where the crop is open, and either the remnants of Savannah grass still exist or there is no heavy undergrowth; such localities are found generally on well-drained high ground near the banks of streams.
- (3) On the ridges and slopes of lower hills from Raimatong to Jainti.
- (4) On Savannah land (or forest with an under-growth of Savannah grass) brought under fire-protection within recent years.
- (5) In a few of the drier *sau* grass areas of *bhabar* tract forest, where there are occasional gaps in the grass.

Patches of natural *sal* along the 30th mile line in Buxa and in the Nilpara Reserve, the Buri Basra Extension and the Poro Extension continue to do well and appear to be extending slowly, but the total amount of established regeneration under the above exceptions is quite small. For all practical purposes, therefore,

it may be said that natural regeneration of *sal* fails entirely to establish itself under existing conditions.

Natural regeneration of miscellaneous species—*Kainjal* and *simal* seedlings appeared in large numbers in a grassy area near Kodalbasti after an effort to stock the area with *sal* had failed. In an area adjoining the plantations at Godamdabri, *tun* and *simal* with a little *sissu* and some miscellaneous trees have formed practically a fully stocked forest in an abandoned forest village site.

Natural patches of *tun* and *chilaunc* at Bhutri champ in Panbari 12, *udal*, *simal*, *tun*, *sidha* and *pitali* in Godamdabri and other places in the Stable Sissu Working Circle of the last Plan, *tun* and *gokul* in Sachaphu forests near Bhutanghat, are doing fairly well.

Simal came up plentifully on old alluvial soil in Rydak Extension. In riverain areas *khair* and *sissu* on recent deposits and *siris* on older deposits are coming up in large numbers especially where grazing has been strictly controlled.

Shade bearers like *lali* and *lahsunc* (*Amoora* and *Diospyros* spp.) are regenerating themselves almost everywhere.

Injuries to which Forests are Liable

Forests generally suffer from the following common injuries :

Climbers—In the past climbers were a great source of injury to trees of all ages but, by intensive climber-cutting, the mature and middle-aged crops have been practically freed from large woody climbers and will remain so, provided regular climber-cutting is continued.

In the old fuel coupes, the growth of the coppice has been seriously retarded because creepers were not cut in the first years after felling.

In plantations, and more especially in young coppice after clear-felling, the growth of herbaceous climbers is rapid and *kowchu* (*Mucuna pruriens*) is particularly dangerous. At Nimati areas of *sal* have been completely covered and killed, and it has also caused damage in the coppice of the Nilpara Range. Simple cutting of this climber proved of little effect as a check, and burning does not kill the roots. Burning to clear the area before this plant seeds followed by hoeing up of the roots has since been tried and promises well, but entails considerable labour.

Good results were obtained by pulling the *kowchu* plants out by the root. This climber is capable of killing *sal* 6 years old and 18 feet high and is a serious menace to plantations which were regarded as established and out of danger. *Kowchu* seems to require a good deal of light to start with and generally establishes itself first alongside a path. It remains to be seen whether it will attack a plantation in which *Boga medeloa* has been sown.

Weeds—In young plantations grass and weeds grow very vigorously and cleaning is necessary. The remedy is clean cultivation by the villagers, and the planting of *Boga medeloa* (*Tephrosia candida*) between the lines. The danger is negligible after first three years, except in *sal* plantations.

Fire—In the moister *sal* forests successful protection from fire over a period of years has resulted in such an increase in evergreen undergrowth that the forest is now unburnable and even in the drier parts damage by fire nowadays is almost negligible for the same reason and no protective measures are necessary.

In riverain forests complete fire-protection is impracticable and early burning is resorted to. This consists in setting fire to each patch of forest as soon as it will burn. Where this work is well done fire does little damage and Savannahs tend to fill in with trees—notably *sidha*—and undergrowth such as *bhant* (*Clerodendron-infortunatum*).

Where railway lines run through the forest fire-traces are cut and burnt early in the cold weather.

Grazing—There is little damage from grazing and no professional graziers are allowed. The ranges being comparatively small supervision is easy and little illicit grazing goes on except during March and April in exceptionally dry seasons. Forest villagers and purchasers are allowed to graze a limited number of cattle.

Erosion—Usually during the months of July and August when the monsoon is at its peak, the streams and rivers having their sources in the hills are in spate. Trees, boulders, etc. that are carried down get fixed at places on occasion and form snags. These snags sometimes gradually enlarge and act like partial dams. The courses of streams are thus diverted with the consequent erosion of banks. Earth movement is sometimes responsible for the change of course of the large rivers.

Wind and Hailstorms—Large numbers of trees are occasionally uprooted by cyclonic winds, usually in the spring. Storms occur frequently in April and May, especially near the hills, and damage the young shoots of trees.

The hailstorm of April 1919, was the most severe that has been known for many years in the district. Part of North Borojhar Forest was entirely stripped of leaves.

An exceptionally severe nor'wester struck the forests in the neighbourhood of Gadadhar and Nilpara on the 21st April 1936, and did considerable damage.

Wild animals—In young plantations pig and deer are a serious menace and plantations must be fenced.

Pigs attack *sal* seedlings especially during February and March of their second year, and some plantations have been completely destroyed.

Other species are not touched by pigs, but are liable to serious damage by deer which strip off the bark either by gnawing or rubbing. This applies especially to *gamari* and *chickrassi* (e.g., in Nilpara plantations). Wild goats also damage the plantations in the Baksa-Duar Range (e.g., in Talgaon).

Porcupines have been known to destroy row after row of *simul* by undermining the plants and eating the roots.

Rats and mice also damage plantations by gnawing the roots of young seedlings, which are eaten off at the collar.

Elephants and rhinoceros cause considerable damage to plantation fencing in many places with the result that other animals obtain easy entrance. They also trample down or uproot young plants and cause considerable damage to field crops in *taungya* plantations. Elephants are very fond of *chapalish* and break down large trees in order to eat the branches.

Bisons are sometimes reported to be destructive at Panbari.

Insects—The *tun* twig-borer (*Hypsipyla robusta*) which also attacks *chickrassi* (e.g., in Nilpara and Rajabhatkhawa plantations) is a dangerous pest in young plantations. This insect, as well as the *sal* and *gamari* defoliators, is encouraged by pure crops. Portions of the 1924 *sal* plantations at Poro and Nimati were attacked by defoliator in April and November 1927. Extensive defoliation of *sal* in Panbari, South Borojhar, Buxa and Bhutri was noted almost every year between 1916 and 1920 and particularly again in 1923. The *gamari* defoliator has been noticed in the Rajabhatkhawa and Nilpara plantations and the *tun* defoliator in the Mendabari and Sankos plantations.

The longicorn beetle (*Hoplocerambyx spinicornis*) attacks dead and sickly *sal* trees and unbarked logs. For protection against the spread of the borer, *sal* logs are barked within a week of felling, but this is not done in the case of departmentally sawn trees. Damage from this insect has recently been noticed also in *sal* plantation (e.g., the 1917 *sal* plantation at Kodalbasti). Damage by the *sal* borer was particularly noticeable all over the *sal* area in North and South Bholka forests, especially in the flood-affected patches of *sal*. The severity of attack was likely to increase but was minimised in this area by an accidental fire in 1927-8 which killed many of the insects. Dead and dying *sal* trees have been extracted departmentally as far as possible, or sold by public auction, with a view to check the spread of this pest.

Fungi—*Polyporus shoreae* (the *sal* root fungus) is very prevalent. Damage from this cause was again particularly noticed in the Nilpara Reserve where windfalls were found to have their roots entirely permeated with mycelium. This fungus has also been found to be damaging young *sal* plantation, both in Buxa and Jalpaiguri divisions.

The following is a working list of timber trees ordinarily kept by the Forest Department of Jalpaiguri.

Vernacular names of species with their scientific equivalents :

<i>Akhane</i>	<i>Alangium begoniaefolium</i> Bail.
<i>Amaro</i>	<i>Spondias mangifera</i> , Willd.
<i>Amala</i>	<i>Embllica officinalis</i> , Gaertn.
<i>Ambake</i>	<i>Jambosa formosa</i> , Walp.
<i>Amiltanki</i>	<i>Bauhinia malabarica</i> , Roxb.
<i>Ankhataruwa</i>	<i>Heynea trijuga</i> , Roxb.
<i>Anp (am)</i>	<i>Mangifera indica</i> , Linn.
<i>Bajrant (Buk)</i>	<i>Quercus lamellosa</i> , Smith.
<i>Bandre (gant, ramphal)</i>	<i>Gynocardia odorata</i> , R. Br.
<i>Bange</i>	<i>Berchemia floribunda</i> , Wall.
<i>Barahar (Bar)</i>	<i>Ficus bengalensis</i> , Linn.
<i>Barra (Bahera)</i>	<i>Terminalia belerica</i> , Roxb.
<i>Barkaunle (Barkauli)</i>	<i>Casearia graveolens</i> , Dalz.
<i>Barkaunli (Chipli Khari)</i>	<i>Aporosa dioica</i> , Muell.
<i>Bhadrase</i>	<i>Elaeocarpus varunua</i> , Ham.
<i>Do.</i>	<i>Do. lancaefolius</i> , Roxb.
<i>Bhalayo</i>	<i>Semecarpus anacardium</i> , Linn.
<i>Bhalukath (Bhalukat)</i>	<i>Talauma hodgsoni</i> , Hk. f. & T.
<i>Bohori</i>	<i>Cordia obliqua</i> , Willd.
<i>Borderi (sidha)</i>	<i>Lagerstroemia parviflora</i> , Roxb.
<i>Buk</i>	<i>Quercus lamellosa</i> , Sm.
<i>Chalta</i>	<i>Dillenia indica</i> , Linn.
<i>Chanp (Plains and foothills)</i>	<i>Michelia champaca</i> , Linn.
<i>Chhativan</i>	<i>Alstonia scholaris</i> , R. Br.
<i>Chikrase</i>	<i>Chukrasia tabularis</i> , Adr. Juss.
<i>Chilaune</i>	<i>Schinus wallichii</i> , Choisy.
<i>Chiplekath</i>	<i>Crataeva unilocularis</i> , Ham.
<i>Chiwari</i>	<i>Bassia butyrea</i> , Roxb.
<i>Dabdabe</i>	<i>Garuga pinnata</i> , Roxb.
<i>Dhamon</i>	<i>Grewia laevigata</i> , Vahl.
<i>Dudhi</i>	<i>Wrightia tomentosa</i> , Roem. and Schult.
<i>Dudila</i>	<i>Ficus nemoralis</i> , Wall.
<i>Dumri</i>	<i>Ficus glomerata</i> , Roxb.
<i>Gamar (gamari, khamari)</i>	<i>Gmelina arborea</i> , Linn.
<i>Gayo</i>	<i>Bridelia retusa</i> , Spreng.
<i>Gineri (seti quenyhlo)</i>	<i>Premna bengalensis</i> , C. B. C.
<i>Gobre</i>	<i>Echinocarpus dasycarpus</i> , Benth.

<i>Gogun, aule</i>	<i>Saurauja Roxburghii</i> , Wall.
<i>Gokul</i>	<i>Ailanthus grandis</i> , Prain.
<i>Guenyhlo</i>	<i>Callicarpa arborea</i> , Roxb.
<i>Haldu (karam)</i>	<i>Adina cordifolia</i> , Hk. f.
<i>Halonre</i>	<i>Lannea grandis</i> .
<i>Harra</i>	<i>Terminalia chebula</i> , Retz.
<i>Hatipaila</i>	<i>Pterospermum acerifolium</i> , Willd.
<i>Jaman</i>	<i>Jambosa praecox</i> , nov. comb.
<i>Jamuna</i>	<i>Syzygium jambolanum</i> , D.C.
<i>Jhakrikath</i>	<i>Phoebe lanceolata</i> , Nees.
<i>Jhingni (phalame)</i>	<i>Myrsine semiserrata</i> , Wall.
<i>Kabra (pakkar)</i>	<i>Ficus infectoria</i> , Roxb.
<i>Kadam</i>	<i>Anthocephalus indicus</i> , A. Rich.
<i>Kainjal</i>	<i>Bischofia javanica</i> , Bl.
<i>Kalikath</i>	<i>Cephalanthus occidentalis</i> , Linn.
<i>Kalo kyamuna</i>	<i>Olea dioica</i> , Roxb.
<i>Kathar, rukh (kathari)</i>	<i>Artocarpus integrifolia</i> , Linn.
<i>Katus</i>	<i>Castanopsis</i> , Spp.
<i>Kawala</i>	<i>Machilus</i> Spp.
<i>Khair</i>	<i>Acacia catechu</i> , Willd.
<i>Khanakpa</i>	<i>Evodia meliacifolia</i> , Benth.
<i>Khaniun</i>	<i>Ficus curia</i> , Ham.
<i>Kharanc</i>	<i>Symplocos</i> spp.
<i>Khari</i>	<i>Celtis tetrandia</i> , Roxb.
<i>Khirra</i>	<i>Holarrhena antidysenterica</i> , Wall.
<i>Khorsane</i>	<i>Cinnamomum caudatum</i> , Nees.
<i>Kimbu</i>	<i>Morus laezigata</i> , Wall.
<i>Koiralo</i>	<i>Bauhinia variegata</i> , Linn.
<i>Koksa</i>	<i>Ficus hispida</i> , Linn.
<i>Kuail</i>	<i>Trema orientalis</i> , Blume.
<i>Kubinde</i>	<i>Kydia calycina</i> , Roxb.
<i>Kumbhi</i>	<i>Careya arborea</i> , Roxb.
<i>Kusum</i>	<i>Baccauria sapida</i> , Muell.
<i>Kutmero (Palmero)</i>	<i>Litsaea polyantha</i> , Juss.
<i>Kyamuna, kalo</i>	<i>Olea dioica</i> , Roxb.
<i>Labshi</i>	<i>Polyalthia simiarum</i> , Benth & Hk.
<i>Tula</i>	<i>Sterculia alata</i> , R. Br.
<i>Labshi</i>	<i>Firmiana pallens</i> , K. Sch.
<i>Lahasune, lahsune</i>	<i>Amoora rohituka</i> , W. & A.
<i>Do., kaledjho</i>	<i>Dysoxylum binectariferum</i> , Hk. f.
<i>Do., siposhikung</i>	<i>Do., procerum</i> , Hiern.
<i>Lali</i>	<i>Amoora wallichii</i> , King.
<i>Lampate</i>	<i>Dualbanga sonneratioides</i> , Ham.
<i>Lapsi</i>	<i>Spondias axillaris</i> , Roxb.
<i>Lather (chapalish, lathar, lator)</i>	<i>Artocarpus chaplasha</i> , Roxb.
<i>Latikaram</i>	<i>Hymenodictyon excelsum</i> , Wall.
<i>Latikath</i>	<i>Glochidion thomsoni</i> , Hk. f.
<i>Lepchekath</i>	<i>Polyalthia simiarum</i> , Benth & Hook.
<i>Mainakath (maina)</i>	<i>Tetrameles nudiflora</i> , R. Br.

<i>Malagiri</i>	<i>Cinnamomum cecidodaphne</i> , Miessn.
<i>Mallata (malata)</i>	<i>Macaranga denticulata</i> , Muell & Arg.
<i>Mandane</i>	<i>Acrocarpus fraxinifolius</i> , Ar- nott.
<i>Mauwa</i>	<i>Engelhardtia spicata</i> , Blume.
<i>Maya</i>	<i>Eriobotrya bengalensis</i> , Hk.
<i>Nagesuri (nageswar)</i>	<i>Mesua ferrea</i> , Linn.
<i>Pahenle</i>	<i>Neonauclea griffithii</i> , Hk. f.
<i>Pakasaj</i>	<i>Terminalia crenulata</i> , Roth.
<i>Panchpate</i>	<i>Vitex heterophylla</i> , Roxb.
<i>Panisaj</i>	<i>Terminalia myriocarpa</i> , H. & M.
<i>Parari</i>	<i>Stereospermum chelonoides</i> , DC.
<i>Patmero</i>	<i>Cryptocarya floribunda</i> , Nees.
<i>Patpate</i>	<i>Meliosma simplicifolia</i> , Walp.
<i>Phalame</i>	<i>Walsura tubulata</i> , Heirn.
<i>Phaledo</i>	<i>Erythrina indica</i> , Lamk.
<i>Phirphire</i>	<i>Firmiana colorata</i> , R. Br.
<i>Pipal</i>	<i>Ficus religiosa</i> , Linn.
<i>Pitali (ramritha)</i>	<i>Trevisa nudiflora</i> , Linn.
<i>Putli (Putili)</i>	<i>Acer laevigatum</i> , Wall.
<i>Rumgurwa</i>	<i>Knema linifolia</i> , Warb.
<i>Ramphal (bandre, ga- nte)</i>	<i>Gynocardia adorata</i> , R. Br.
<i>Rangbhany</i>	<i>Caryota urens</i> , Linn.
<i>Ritha</i>	<i>Sapindus detergens</i> , Wall.
<i>Runche</i>	<i>Actinodaphnus obovata</i> , Blume.
<i>Sakhua (sal)</i>	<i>Shorea robusta</i> , Gaertn.
<i>Sal (sakhua)</i>	Ditto, Gaertn.
<i>Satisal</i>	<i>Dalbergia latifolia</i> , Roxb.
<i>Setikath</i>	<i>Endospermum chinense</i> , Benth.
<i>Sidha (barderi)</i>	<i>Lagerstroemia parviflora</i> , Roxb.
<i>Simal</i>	<i>Salmalia malabaricum</i> , D.C.
<i>Sindure</i>	<i>Mallotus philippinensis</i> , Muell.
<i>Sinkoli, bhale</i>	<i>Cinnamomum obtusifolium</i> , Nees.
<i>Do., (tezpat)</i>	<i>Do., tamala</i> , Nees.
<i>Siris, kalo</i>	<i>Albizia marginata</i> , Merr.
<i>Do., kakur</i>	<i>Do., odoratissima</i> , Benth.
<i>Do., seto</i>	<i>Do., procera</i> , Benth.
<i>Do., tata (portka)</i>	<i>Do., lucida</i> , Benth.
<i>Sissu</i>	<i>Dalbergia sissoo</i> , Roxb.
<i>Sonalu (bandarlata)</i>	<i>Cassia fistula</i> , Linn.
<i>Siyalphusre</i>	<i>Grewia vestita</i> , Wall.
<i>Tanki</i>	<i>Bauhinia purpurea</i> , Linn.
<i>Amil-Tanki</i>	<i>Do., malabarica</i> , Roxb.
<i>Tantri</i>	<i>Dillenia pentagyna</i> , Roxb.
<i>Tarsing</i>	<i>Beilschmiedia sikkimensis</i> , King.
<i>Do., thulo</i>	<i>Do., roxburghiana</i> , Nees.
<i>Segun (Teak)</i>	<i>Tectona grandis</i> , Linn.
<i>Thali</i>	<i>Turpinia pomifera</i> , DC.
<i>Timur</i>	<i>Zanthoxylum budrunga</i> , Wall.
<i>Totola</i>	<i>Oroxylum indicum</i> , Vent.
<i>Tun, (toon)</i>	<i>Cedrela toona</i> , Roxb.
<i>Udal</i>	<i>Sterculia villosa</i> , Roxb.

Fauna—The district has always been famous for its big game and, though the heavy grass and reed jungle which is the favourite resort of wild animals is steadily diminishing owing to be extension of cultivation and tea, the sanctuary afforded by the numerous reserved forests will provide game from being killed out and the district will always afford good sport. The reserved forests are, apart from the private forest of the Baikunthapur Jungle Mahal on the east of the Teesta, from west to east, Apalchand, lower Tendu, Upper Tendu, and Moraghat, all in the Jalpaiguri division, and Kodalbasti, Chilla-patha, Panbari, Bamni, Buxa, Tashigaon, Jainti, Gangutia, Raimatong, Rajabhatkhawa, Bhuturi, Rydak and Chipra, in the Cooch Behar and Buxa Forest divisions. The game sanctuaries are: Garumara, which preserves, among other animals, the rhinoceros, the bison and the elephant; Chapramari, which is famed for birds. The Cooch Behar Forest division of Jalpaiguri maintains the third sanctuary, Jaldapara which contains the Nilpara Forests also famed for the rhinoceros. As in the case of flora, so in the case of fauna, the study of wild life in this district has suffered from its proximity to Darjeeling which offers so many attractions for study. No full inventory has been made out of either wild animals or birds or even butterflies of the Duars. Among the larger carnivora are the tiger, the leopard, and the clouded leopard. The tiger is found all over the country east of the Teesta and very large ones have often been shot. One of the largest lengths has been 10' 2". Recent records of animals shot will be available with the Divisional Forest Officer and the Duars Game Association. There are several persons in the district greatly interested in the preservation of wild life. They produce much local lore. Shoots are organised at very short notice and everybody borrows everybody else's elephants without being under any obligation to ask them to the shoot. For big shoots *jotedars* send their elephants on request, and the Deputy Commissioner himself has six elephants maintained by the Government. It is customary for the Deputy Commissioner to run a shoot every Christmas jointly with the Commissioner or at any other time that is convenient. There is usually a great deal of poaching and clandestine shooting of forbidden game.

The following list of (a) mammals, (b) birds, (c) reptiles, and (d) fish, is reproduced from D.H.E. Sunder's Settlement Report of 1895, and should be read subject to correction. Naturalists often forget to mention the packs of wild dog which roam the Buxa and Sachaphu forests and kill deer and sambur in large numbers.

(a) Mammals

English Name 1	Native Name 2	Scientific Name 3	Remarks 4
The Bengal monkey The common Indian sloth-bear	Bandor Bhaluk or Bhaloo	Macacus rhesus Ursus labiatus	Found in the Buxa forests and Buxa hills. Found in the Waste-lands of Alipur and Bhalka tahsils, and in the forests east of the Jaldacca river.
The Himalayan black- bear	Bhaloo	Do. Tibetanus	Ditto
The hog-badger	Khud-khudi Bhaluk	Arctonyx collaris	Seen in the waste-lands of Alipur tahsil. Is eaten by Meches and Garos.
The otter	Udh	Lutra nair	Found all along the small hill streams. They are captured in nets. Skins are collected and sold at Jalpesh mela.
The tiger	Go-bagha	Felis tigris	Used to be very common throughout the district. Are becoming scarce owing to increase of cultivation. The flesh is eaten by Santhals. The largest tiger hitherto shot in the district measured 10' 2".
The leopard	Nekra-bagh	Felis pardus	Found throughout the district.
The clouded leopard	..	Felis nebulosa	Found only in the Buxa hills, but very rare.
The leopard cat	Hapa	Felis bengalensis	Common in the district
The jungle cat	Bhar-beli	Felis chaus	Ditto
The civett cat	Goindari	Viverra zibetha	Ditto
The lesser civett cat	Dalgoinda	Viverra Malaccensis	Ditto
The jackal	Sial	Canis Aureus	Ditto
The wild dog	Kuhak	Canis (cuon) Rutilans	Seen in the forests.
The Indian fox	Khak-siali	Vulpes Bengalensis	Common throughout the district.
The porpoise	Sissu	Platanista Gangetica	Found only in the Tista river.
Crocodile	Gharial	..	Found in the Mujnai river.
The black squirrel	Pankiraj	Sciurus Giganteus	Found only in the forests east of Buxa. Is getting rare.
The orange-bellied grey squirrel	Ditto	Sciurus Lokriah	Ditto
The common Indian • squirrel	Dhorea	Sciurus Palmaram	Common in the district
The Indian porcupine	Cheda	Hystrix leucura	Ditto Is eaten by Meches, Garos and Rajbansis.
The hispid hare	Khagra-kata indoor	Lepus hispidus	Found in the district, but rare.
The hare	Shesha	Lepus Ruficaudatus	Common in the district
The elephant	Hati or Bonua hati	Elephas Indicus	Found throughout the forests.
Rhinoceros	Hati gera	Rhinoceros Indicus	Found in the forests; also in swampy khas lands. Are becoming scarce. Me- ches, Garos and Rajbansis eat the flesh.
Ditto	Kuku gera	Rhinoceros Malayan	Body rough and tuberculated. It has a very bad temper.
Ditto	Sheng Shengi gera	Rhinoceros Malayan	Is small and ill-tempered. Shot in Dal- gaon forests, but very rare.
The wild pig	Jungly soor or Bonnua soor.	Sus Indicus	Common throughout the district. The flesh is eaten by Rajbansis, Meches and Garos.
The pigmy hog	Thaguri soor	Porcula salvania	Found in the forests and waste lands bor- dering on them in the Alipur and Bhal- ka tahsils.
The Indian antelope	Talesar harin	Antelope bezoartica	A few may be seen in the waste lands of Falakata, Alipur and Bhalka tahsils.
The bison	Ban-goru	Gavaeus gaurus	Found in the reserved forests.
Ditto	Mithun	Gavaeus frontalis	Found along the foot of the hills between the Toorsa and Rydak rivers.
The wild buffalo	Jungli bhais	Bubalus arni	Seen in the forests of the Bhalka and Ali- pur tahsils. Are now getting rare.

(a) Mammals (*concl.*)

English Name 1	Native Name 2	Scientific Name 3	Remarks 4
The sambhar	Ghous	<i>Rusa aristotelis</i>	Found in the forests and khas lands east of the Toorsa river.
The spotted deer	Chital or Boro khatiya	<i>Axis maculatus</i>	Seen in the forests north of Bhalka and, Alipur tahsils.
The hog deer	Khatia	<i>Axis porcinus</i>	Common in the district.
The swamp deer	Bara singha	<i>Rucervus Duvaucellii</i>	Ditto
The barking deer	Sokra	<i>Cervulus aureus</i>	Common in the reserved forests.

(b) Birds

A list of the game birds found in the district is given below :

Serial No.	English Name 1	Native Name 2	Scientific Name 3	Remarks 4
1	The Indian pea-fowl	Maur	<i>Pavo cristatus</i>	Common in the district, especially in the jungle lands east of the Jaldacca and Toorsa rivers.
	The Kallige pheasant	Kallige	<i>Gallophasis albocristatus</i>	Common in the forest north of Mcenglas and also in the Buxa hills.
3	The Moonal Do.	Bhap	<i>Lophophorus Impeyanus</i>	Found between Buxa and Schinchula, but rare.
4	The Red jungle fowl	Bon charie	<i>Gallus ferrugineus</i>	Common in the district. Frequently seen in the early morning and after sunset in the Buxa forests between Janguri and Minagaon along the road to Buxa.
5	The Indian Bustard	Charak champa	<i>Euphoditis Edwardsii</i>	Common in the winter months in grass jungle of high lands.
6	The Bengal floriken	Chorros	<i>Sypheotides Bengalen-sis</i>	Ditto
7	The lesser floriken	Ditto	<i>Sypheotides auritus</i>	Common between November and March in grass jungle of high land, east of the Jaldacca and Toorsa rivers. Is rare in the Mynaguri tahsil.
8	The Black partridge	Titri	<i>Francolinus vulgaris</i>	Found in the grass land in Falakata and Alipur tahsils. Is getting scarce owing to extension of cultivation.
9	The swamp Do.	Koyar or kaher	<i>Ortygornis gularis</i>	Common in low grass lands east of Jaldacca river.
10	The Grey Do.	Titri	<i>Ortygornis Ponticeri</i>	Found in grass lands in Alipur, Falakata and Bhalka tahsils.
11	The Hill Do.	..	<i>Arboricola torqueola</i>	Found at Tashigaon Buxa.
12	The Grey quail	Noda bhati	<i>Coturnix communis</i>	Common throughout the district.
13	The Button quail	Noona bhati	<i>Turnix Sykesie</i>	Common in the district.
14	The Woodcock	..	<i>Scolopax rusticola</i>	Found in the district, but rare.
15	The Snipe	Cherka	<i>Gallinago Scolopax</i>	Common in marshy land throughout the district, but not in large numbers.
16	The Painted snipe	Chaha	<i>Rhynchoea Bengalen-sis</i>	Common in the district, and found all round the year.
17	The Jack Do.	Do.	<i>Gullinago Gullinula</i>	Found in char lands of the Tista and Jaldacca rivers.
18	The Common wild goose	Jungli Rajhas	<i>Anser cinereus</i>	Found during the winter months on the Tista and Jaldacca char lands. Has been shot in jheel at Falakata.

(b) Birds (*concl'd.*)

Serial No.	English Name 1	Native Name 2	Scientific Name 3	Remarks 4
19	The Mallard		Anas boschas	Found during the winter months on the Tista and Jaldacca char lands. Has been shot in Jheel Falakata.
20	The Brahminy duck	Chakwa	Tadorna rutila	Common throughout the cold weather on char lands of all large streams.
21	The Widgeon		Anas penelope	Ditto
22	The Pintail Duck		Dafila acuta	Ditto
23	The red-crested pochard		Fuligula rufina	Ditto
24	The Merganser		Mergus castor	Ditto
25	The Blue-winged teal		Querquedula crecca	Ditto
26	The Teal		Ditto	Ditto
27	The Whistling teal	Saroli	Dendrocygna major	Common in all jheels in the district. Lays its eggs in short grass (elua) on high-lands
28	The Cotton teal	Nareli or nakatkheri	Dendrocygna awruree	Common in the district. Occupies abandoned nests of other birds on high trees and lays its eggs in them.
29	The Bittern		Botaurus stellaris	Found on banks and chars of large rivers; also on edges of jheels.
30	The Curlew	Gang-titi	Numenius Arquata	Ditto
31	The Golden plover	Itali	Charadrius longipes	Common in the district throughout the cold weather. Has been seen on fields up to July
32	The Imperial pigeon	Hukus	Carpophaga Sylvatica	Found in the forests.
33	The green pigeon	Harial or harital	Crocopus phoenicopterus	Common in the district.

(c) Reptiles

List of snakes found in the Western Duars:

Serial No.	English Name 1	Native Name 2	Scientific Name 3
1	Cobra	Goma	Naja Tripudians
2	Do. (dusky variety)	Alath	Ophiophagus Elaps
3	Chain viper	Dhamna Bora	Daboia Russellii
4	Common grass snake	Bhemtia	
5	Dhamin	Bahera	Ptyas mucosus
6	Echio	Chokoria Bora	Echis Carinata
7	Krait	Sakati	
8	Do.	Kansorka	Bungarus Fasciatus
9	Do.	Chengtia Bora	Bungarus Coeruleus
10	Pit viper	Kheri	Trimeresurus Carinatus
11	Python	Parbatiya Bora	Python molurus
12	Walter-snake	Dhora	Hydrophis Grassicollis

(d) Fish

The rivers abound in fish of various kinds, of which the mahseer and rohu are the best. Good mahseer fishing is to be had where the Jaldacca, Toorsa, and Rydhak first debouch from the hills.

The smaller streams abound in fish of several species, of which the native names are given below

(1) Ruhit or Rohu, (2) Chital, (3) Boal, (4) Tor or Tore - three kinds, viz., Angitore, Jongotore and Putitore, (5) Koorsha, viz., Chandan Koorsha, Pani Koorsha, (6) Baos or Kal Baos, (7) Sal or Gazar, (8) Soul, (9) Airh, (10) Bag Airh, (11) Magur, (12) Singi, (13) Tengra, viz., Moja Tengra, Lallua Tengra, and Kooji Tengra, (14) Taki, Sati or Toopkooni, (15) Koi, (16) Khoelsha, (17) Khorikati or Bheda or Dhoodorgali, (18) Chanda, (19) Ilis or Ilsa, (20) Bhangna, (21) Raecheng or Rack, (22) Elanga, (23) Kuchia, (24) Bacha, viz., Ful Bacha, Naria Bacha, (25) Foli, (26) Pubda, (27) Khata, viz., Burra Khata, Deo Khata, (28) Katna (29) Khotti, (30) Bhot-khotti, (31) Boreli, (32) Cheng, viz., Dudua Cheng, Hooloo Cheng and Boora Cheng, (33) Isla, viz., Burra Isla, Satasi Isla, Bhath Isla, Kala Isla, (34) Baim, (35) Koochia and Tara Koochia, (36) Gochi, viz., Chhota Gochi, Falua Gochi, Tooree Gochi, (37) Balia, (38) Batasi, (39) Darika, (40) Bhole or Bhol, (41) Tepa, (42) Pangas, (43) Chella, (44) Puti, (45) Baspata, (46) Khorsola, (47) Mowka, (48) Ahela, (49) Cheka, (50) Baghi, (51) Poya, Ghoor-poya, Jhuri-poya, (52) Moogroosh, (53) Ghora, (54) Pogol, (55) Oothab, (56) Dhakra, (57) Badangi or Chapti, (58) Lengsa, (59) Tita, (60) Khoota.

As already mentioned above, the Chapramari sanctuary is specially famous for birds. In the course of two days in March 1935 H.B. O'Donnell and C.M. Inglis observed the following birds from the verandah of the forest bungalow of Chapramari forest, without actually going into the forest. It is obvious that as a route of migration for birds, the district is especially suitable for observation :

- 1 The Northern Indian Jungle Crow
- 2 The Eastern Himalayan Tree pie
- 3 The Indian Sultan Tit
- 4 The Cinnamon-bellied nuthatch
- 5 The Himalayan velvet fronted nuthatch
- 6 The Himalayan black bulbul
- 7 The Himalayan brown-eared bulbul
- 8 The Bengal redvented bulbul
- 9 The Bengal red-whiskered bulbul
- 10 The Himalayan blackcrested yellow bulbul
- 11 The Indian Magpie-Robin
- 12 The Common Verditer Flycatcher
- 13 The Northern Indian Blacknaped Flycatcher
- 14 The Northern Greybacked Shrike
- 15 The Indian Scarlet Minivet
- 16 The Northern Bronzed Drongo
- 17 The Indian Haircrested Drongo
- 18 The Indian Lesser Racket-tailed Drongo
- 19 The Burmese Tailor Bird
- 20 The Indian Blackheaded Oriole
- 21 The Indian Grackle or Hill Myna
- 22 The Indian Greyheaded Myna
- 23 The Common Indian Myna

- 24 The Indian Jungle Myna
- 25 The Indian Tree Pipit
- 26 The Indian Yellowbacked Sunbird
- 27 The Indian scarlet-backed Flower-pecker
- 28 The Assam Blacknaped Wood-pecker
- 29 The Eastern Himalayan small yellownaped Woodpecker
- 30 The Darjeeling Pigmy Woodpecker
- 31 The Assam Lineated Barbet
- 32 The Blue-throated Barbet
- 33 The Indian Blue-eared Barbet
- 34 The Large Burmese Paroquet
- 35 The Indian Redbreasted Paroquet
- 36 The Broad-billed Roller
- 37 The Indian White-breasted Kingfisher
- 38 The Nepal Longtailed Nightjar
- 39 The Himalayan Redlegged Falconet
- 40 The Crested Serpent Eagle
- 41 The Pintailed green Pigeon
- 42 The Indian Rufus Turtledove
- 43 The Indian Spotted Dove
- 44 The Common Red Jungle Fowl
- 45 The Black Stork
- 46 The Indian Pond-Heron or Paddy-bird
- 47 The Cuckoo Shrike
- 48 The Blue-bearded Bee-eater
- 49 The Chloropsis Hardwickii
- 50 The Long tailed Broadbill
- 51 The Large Racket-tailed Drongo
- 52 The Green Magpie
- 53 The Cock Purple Sunbird
- 54 The Chestnut-headed Bee-eater
- 55 The Hoopoe

The following is a list of fish obtained by courtesy of the Director of Fisheries, West Bengal :

Local Name				Scientific Name
1	Chela	..	..	Chela bacaila (Ham)
2	Ghol	..	..	Barilius barna (Ham)
3	Joia	..	..	Barilius bendelisis van chedra (Ham)
4	Bhola	..	..	Barilius (Raiamas) bela (Ham) (Hill trout)
5	Koksa	..	..	Barilius shacra (Ham)
6	Koksa	..	..	Barilius vagra (Ham)
7	Chabli	..	..	Danio aequipinnatus (McClell)
8	Nipati	..	..	Danio dangila (Ham)
9	Banspata	..	..	Danio devario (Ham)
10	Darika	..	..	Esomus danrius (Ham)
11	Dankoni	..	..	Rasbora daniconius (Ham)
12	Mowrala	..	..	Amblypharyngodon mola (Ham)
13	Utta	..	..	Barbus chagunio (Ham)
14	Kanchan puti	..	..	Barbus conchoni (Ham)
15	Katli or Bhorkol	..	..	Barbus (Lissocheilus) dukai (Day)
16	Mahasol	..	..	Barbus putitoora (Ham)
17	Kurti	..	..	Barbus sarana (Ham)
18	Punti	..	..	Barbus stigma (Cuv and Valo)
19	Punti	..	..	Barbus titius (Ham)
20	Katla	..	..	Catla catla (Ham)
21	Mrigala	..	..	Cirrhhina mrigala (Ham)
22	Kharke bata	..	..	Cirrhhina reba (Ham)
23	Bhangua	..	..	Labeo boga (Ham)
24	Kursha	..	..	Labeo kalbasu (Ham)
25	Katal Kushi	..	..	Labeo dero (Ham)
26	Kurchi	..	..	Labeo gonius (Ham)

Local Name				Scientific Name
27	Utti	..	..	<i>Labeo pangusia</i> (Ham)
28	Rui	..	..	<i>Labeo rohita</i> (Ham)
29	Manwa	..	..	<i>Rohtee cotio</i> (Ham)
30	Badangi	..	..	<i>Semiplotuz semiplotus</i> (MC.CII)
31	Titari	..	..	<i>Psilorhynchus balitora</i> (Ham)
32	Poia	..	..	<i>Lepidocephalichthys guntea</i> (Ham)
33	Magur	..	..	<i>Clarius batrachus</i> (Linn)
34	Singi	..	..	<i>Heteropneustes fossilis</i> (Bloch)
35	Pabda	..	..	<i>Callichrous pabda</i> (Ham)
36	Boal	..	..	<i>Wallagonia attu</i> (Bloch)
37	Chega	..	..	<i>Chaca chaca</i> (Ham)
38	Bacha	..	..	<i>Eutropiichthys vacha</i> (Ham)
39	Muribacha	..	..	<i>Pseudeutropius murius</i> (Ham)
40	Tengra	..	..	<i>Mystus cavassius</i> (Ham)
41	Air	..	..	<i>Mytus scenghala</i> (Sykes)
42	Tengra	..	..	<i>Mystus cavassius</i> (Ham)
43	Botsinghi	..	..	<i>Olyra kempi</i> (Chaudhuri)
44	Botengra	..	..	<i>Erethistes elongatus</i> (Day)
45	Kunkati	..	..	<i>Erethistes hara</i> (Ham)
46	Kankla	..	..	<i>Xenentodon cancila</i> (Ham)
47	Chanda	..	..	<i>Ambassis nama</i> (Ham)
48	Chanda	..	..	<i>Ambassis ranga</i> (Ham)
49	Koi	..	..	<i>Anabas testudineus</i> (Bloch)
50	Botkoi	..	..	<i>Badis badis</i> (Ham)
51	Dudhunkhal	..	..	<i>Nandus nandus</i> (Ham)
52	Khalisha	..	..	<i>Trichogaster fasciatus</i> (Bl. and Sehn.)
53	Cheng	..	..	<i>Ophicephalus gachua</i> (Ham)
54	Sal or Gajari	..	..	<i>Ophicephalus Marulius</i> (Ham)
55	Taki	..	..	<i>Ophicephalus punctatus</i> (Bloch)
56	Dudu cheng	..	..	<i>Ophicephalus stewartii</i> (Playfair)
57	Shal	..	..	<i>Ophicephalus striatus</i> (Bloch)
58	Tepa, Puffer	..	..	<i>Tetraodon cutcutia</i> (Ham)
59	Bam	..	..	<i>Mastacembelus armatus</i> (Lacep)
60	Turi	..	..	<i>Mastacembelus Pancalus</i> (Ham)
61	Goichi	..	..	<i>Rhynchobdella acubeak</i> (Bloch)
62	Kupchia	..	..	<i>Amphipnous euchia</i> (Ham)
63	Khora	..	..	<i>Gadusia chapra</i> (Ham)
64	Chital	..	..	<i>Notopterus chitala</i> (Ham)
65	Pholui	..	..	<i>Notopterus notopterus</i> (Pall)

The numerous rivers and streams in the district contain many varieties of fish of which the masheer, rohu and katli are the biggest. Other large species are the chital, boal, kalbaus, karusa, and raicheng. There are very few families who live solely by fishing, but Rajbansis, Muhammadans, Meches, and Nepalis, all catch fish in addition to their other occupations. Meches poison fish in small rivers and still water; they use a jungle creeper called Ru-gabdi; which they cut into pieces about a foot in length; these pieces are tied into a bundle and well beaten in the water. Mahseer fishing used to be particularly good in the higher reaches of the Jaldhaka, Torsa, Raidak and Sankos rivers and big fish are still caught occasionally. The Jalpaiguri Duars Game Association has done creditable work to preserve fisheries and fish from indiscriminate destruction in the sanctuaries.

Climate—The seasons in the Jalpaiguri district follow generally the course of those of other districts in the plains but, owing to its proximity

to the hills, the rainfall is much heavier and the temperature is rarely excessive. November, December, and January are the driest months, though even in these some rain usually falls. In consequence of this heavy and widespread rainfall the district never presents a dried-up appearance but is always green and the growth of vegetation is most luxuriant. The early cold weather months are delightful, the atmosphere is clear and fine views of the snows are seen; in January and February it is colder and there are often slight mists; by the end of March it begins to get warmer, and is very hot in April, in years when the rainfall is light in that month. In May the average rainfall is about 12 inches and the month is usually comparatively cool; the rains are very heavy in June, July and August, and the atmosphere is saturated with moisture.

Jalpaiguri has an unenviable reputation for fever; in the tract adjoining Rangpur, a very

severe type of malarious fever is prevalent, while in the Western Duars the dreaded black-water fever once claimed many victims.

Temperature—Temperature is rarely excessive. It is lowest in January; by April the mean temperature rises and after that it gradually increases till it reaches its highest point in July and August. The mean maximum temperature occurs in April; the mean minimum is lowest in January.

At Buxa Cantonment the climate is quite different; the rainfall is heavier and even in the hottest weather punkhas are not used and blankets are necessary at night. The tea garden area to the north of the district is generally cooler than the tracts west of the Teesta river.

Rainfall—The heaviest rainfall in the Jalpaiguri district is at the foot of the hills, and the lowest in the south on the borders of Rangpur. The town of Jalpaiguri occupies a position intermediate between the two, and though it has a heavier rainfall than Darjeeling, the fall is much less than in the north of the Western

Duars. Rain falls in almost every month of the year; it is lightest in the cold weather months, rather more heavy in March, and increases considerably in April. May may almost be considered a rainy month and precipitation is often very heavy. From June to September rainfall is general; the monsoon current flows northwards and is deflected towards the west in Northern Bengal so that the prevailing direction of the wind at Jalpaiguri during the rains is east or south-east. During this period the rainfall in the beginning of this century at Jalpaiguri was 119.41 inches, at Alipur Duar 122.66, at Buxa Cantonment 176.76 and at the Sam Sing tea garden, about 1,500 feet above sea-level, 184.55 inches. In the south at Debiganj, the average was only 69.65. Out of the highest recorded rainfalls was 249.92 inches at Buxa in 1903. One of the driest years at Jalpaiguri was 1900, when the rainfall was only 84 inches.

D.H.E. Sunder in the Settlement Report of 1895 gives two interesting tables of rainfall in Jalpaiguri and Buxa Duar. These tables are reprinted below:

Rainfall in Jalpaiguri, 1889-93

	1889			1890			1891			1892			1893		
MONTHS	Maxi- mum	Mini- mum	Mean	Maxi- mum	Mini- mum	Mean	Maxi- mum	Mini- mum	Mean	Maxi- mum	Mini- mum	Mean	Maxi- mum	Mini- mum	Mean
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
January	61	51	56	..	53	..	74	50	62	75	52	63	70	49	60
February	71	50	61	..	52	..	75	49	62	79	53	66	70	49	60
March	86	58	72	87	57	72	81	57	69	87	61	74	80	57	68
April	91	65	78	88	68	78	90	66	78	90	71	80	85	68	77
May	90	69	80	88	..	..	84	70	77	85	72	78	89	73	81
June	87	71	79	85	73	79	87	75	81	87	75	81	87	75	81
July	88	74	81	86	75	81	88	77	82	87	76	82	86	76	81
August	88	75	81	85	75	80	89	76	83	86	75	81	88	76	82
September	86	72	79	85	74	79	89	76	82	88	76	82	86	75	81
October	87	68	78	84	68	76	85	66	76	86	68	76	86	71	79
November	83	63	73	80	59	69	82	58	70	81	59	70	81	61	71
December	..	55	..	74	53	64	78	52	65	75	52	63	74	50	62

Rainfall in Buxa Duar, 1889-93

January	67	63	65	..	..	..	56	67	61	59	62	61	54	55	54
February	64	63	64	70	69	70	58	68	63	59	56	57	56	58	57
March	75	73	74	71	73	72	63	68	65	68	72	70	66	69	68
April	76	75	75	77	75	76	72	76	74	75	73	74	69	76	73
May	77	74	76	77	76	77	76	76	76	77	77	77	73	77	75
June	77	77	77	75	76	75	74	80	77	75	81	78	76	79	77
July	78	76	77	77	78	77	75	78	77	76	79	77	71	74	73
August	79	77	78	74	78	76	74	81	78	78	76	77	73	73	73
September	76	75	75	72	76	74	76	83	79	77	83	80	76	74	75
October	76	73	74	68	74	71	67	75	71	72	74	73	69	78	74
November	72	69	71	62	69	66	61	72	66	65	65	65	65	68	67
December	67	64	66	70	76	73	56	69	63	60	61	61	56	63	59

He supplemented the above tables by a third table of rainfall at three places in Alipur Duars

subdivision. This is also reproduced on the next page :

Rainfall in Alipur Duars Subdivision, 1889-93

Months	Buxa Duar						Alipur Duar						Falakata					
	1889	1890	1891	1892	1893		1889	1890	1891	1892	1893		1889	1890	1891	1892	1893	
1	2	3	4	5	6		7	8	9	10	11		12	13	14	15	16	
April	2.90	7.38	6.33	16.54	14.75		6.53	9.29	6.16	10.05	8.94		4.58	4.89	4.99	5.48	10.56	
May	17.70	10.43	18.88	31.96	11.84		6.37	6.44	9.58	28.21	7.07		10.92	4.72	10.11	28.21	5.90	
June	37.71	44.09	25.98	44.48	33.56		27.39	55.30	12.90	27.20	17.91		22.75	44.17	11.16	16.79	18.27	
July	71.12	60.55	28.35	82.09	67.27		40.00	43.03	23.34	50.80	46.50		47.14	40.94	19.45	34.63	44.16	
August	38.70	51.48	20.35	51.28	62.26		27.82	46.07	9.37	40.97	22.73		30.44	19.05	17.80	50.72	18.88	
September	25.12	27.54	25.35	44.78	28.09		18.13	30.07	11.46	15.23	22.03		14.43	8.57	11.45	12.24	22.40	
Total six months	193.25	201.67	125.24	271.13	217.77		126.24	190.20	72.81	172.46	125.18		130.26	122.34	74.96	148.07	120.17	
October	6.29	20.68	5.17	9.77	13.59		1.84	14.27	2.40	..	1.46		4.85	16.59	1.40	1.21	1.75	
November	.71	.22	.45	1.11	1.51		..	..	..	1.75	.45		.16	..	..	.72	.56
December	.01	.50	..	1.15	.03		..	..	..	.23	..		..	..	..	..	..
January	2.24	1.28	.41	.76	5.28		1.68	..	..	..	.30		.80	..	..	..	.54
February	2.70	.01	1.03	3.75	.83		1.01	..	1.47	.84	.67		..	..	1.26	.80	1.02
March	6.25	..	3.21	1.80	3.02		3.14	..	2.08	.50	2.47		..	..	.49	.79	.20
Total six months	18.20	22.69	10.27	18.34	24.26		7.67	14.47	5.95	3.32	5.35		5.81	16.59	3.15	3.51	4.07	
Total twelve months	211.45	224.36	135.51	289.47	242.03		133.91	204.47	78.76	175.78	130.53		136.07	138.93	78.11	151.58	124.24	

The following table is reprinted from J.F. Gruning's District Gazetteer of Jalpaiguri (1911), which represent the averages recorded during the five years from 1903 to 1908 :

Station	Rainfall in the District, 1903-08		Novem- ber to February	March to May	June to October	Annual Aver- age
Jalpaiguri	2.20	17.74	119.41	139.35
Debaguri	1.24	10.46	69.65	81.35
Patharjhora	3.22	27.80	171.92	202.94
Sam Sing	5.31	35.33	184.55	225.19
Alipur Duar	1.38	16.70	122.66	140.74
Buxa	4.22	25.68	176.76	206.66

The following record of annual rainfall in selected tea gardens for the thirty-year period, 1923-52, is published by courtesy of the managements of the gardens concerned :

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Tea Estate															
1 Aibhul	158.28	150.74	156.10	147.65	144.14	143.83
2 Ambari
3 Anandapur	142.36	140.29	137.45	150.38	138.69
4 Atiabari	123.98
5 Bagracote	163.92	161.47
6 Baintgoorie	.	.	.	111.28	106.47	101.33	98.35	104.03	108.70	89.96	117.45	144.60	125.93	105.04	95.58
7 Baradighi	.	.	158.92	134.19	130.53	123.66	149.27	121.41	139.19	142.14	140.80	137.61	143.48	156.47	104.60
8 Batabari	.	.	139.14	129.42	123.98	138.98	159.26	156.61	131.65	141.40	141.69	138.57	125.93	113.60	.
9 Beech	.	.	.	180.59	185.69	157.42	189.19	120.24	173.26	171.28	152.92	184.90	150.02	161.53	151.99
10 Bhandiguri	.	.	142.98	117.73	120.15	118.35	141.27	138.58	143.05	138.05	127.05	157.90	146.13	158.83	126.77
11 Bharnobari	138.31	143.41
12 Bhatkawa	.	.	.	191.02	168.96	141.89	156.51	102.67	142.36	156.91	132.13	154.22	124.44	127.52	123.90
13 Bhogotopore	.	157.35	189.31	147.75	159.68	148.09	123.67	177.08	128.21	151.39	169.12	144.33	141.84	163.06	130.55
14 Birpara	.	155.14	137.68	150.55	133.02	132.26	124.13	135.10	148.04	145.16	121.71	118.10	122.63	126.64	130.22
15 Bundapani	.	163.25	173.55	146.78	151.22	131.53	149.54	159.88	107.00	134.94	139.15	140.19	148.26	140.68	154.68

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
Tea Estate															
1 Aibhul	193.19	173.80	174.11	148.46	154.55	165.40	159.47	167.60	174.34	171.00	195.95	196.38	159.14	226.71	238.64
2 Ambari	..	..	..	164.40	135.62	154.94	133.19	159.17	133.41	139.89	158.23	150.64	129.55	163.42	182.39
3 Anandapur	174.37	123.31	147.05	112.31	79.33	109.01	82.49	101.61	85.23	127.41	144.79	169.99	147.70	159.40	154.48
4 Atiabari	170.52	150.36	129.84	144.40	123.82	209.15	175.29	178.60	144.96	143.06	249.69	263.50	211.76	227.66	260.13
5 Bagracote	213.56	152.03	184.73	165.99	155.33	215.81	201.31	215.82	244.74	161.23	175.83	206.00	148.67	196.80	183.31
6 Baintgoorie	124.73	98.42	149.62	138.62	109.83	153.00	121.17	159.21	143.39	129.03	177.78	183.20	152.25	170.93	165.12
7 Baradighi	162.36	135.45	129.26	112.82	105.20	115.90	88.10	146.50	121.00	110.90	144.80	140.13	128.45	134.29	134.99
8 Batabari	..	131.35	144.34	119.41	108.29	..	..	..	122.10	121.72	153.21	153.32	115.28	161.29	210.61
9 Beech	192.53	160.43	150.54	156.80	135.29	173.20	164.49	174.82	132.94	152.25	157.19	162.47	112.43	175.55	179.70
10 Bhandiguri	184.95	134.63	145.81	157.71	115.18	167.12	140.70	178.66	133.24	138.99	179.88	161.37	175.75	146.10	184.22
11 Bharnobari	187.82	152.11	125.97	130.26	117.50	172.31	178.98	175.35	140.81	157.68	183.42	178.85	151.61	186.96	182.10
12 Bhatkawa	168.23	148.59	131.56	142.37	113.65	180.85	139.39	163.93	125.33	131.36	165.95	166.61	124.33	158.17	174.85
13 Bhogotopore	196.49	154.50	159.67	152.15	153.43	173.99	153.03	166.88	136.60	151.68	161.72	167.52	145.74	188.35	173.44
14 Birpara	153.33	126.98	119.75	116.51	104.80	132.88	125.20	134.36	113.85	112.57	131.40	153.50	109.70	152.14	147.34
15 Bundapani	171.67	126.28	139.15	129.83	134.08	154.00	137.91	154.27	140.87	130.81	150.34	147.13	118.78	177.04	186.81

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
16 Buxa Doars Tea Co., Ltd.	156.23	159.93	177.25	165.63	178.36	151.36	166.69	112.88	149.04	161.78	147.09	166.26	153.76	140.19	128.74
17 Carron Tea Estate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	131.74
18 Central Doorars "	..	..	..	186.71	176.37	179.21	217.99	132.14	165.20	182.20	161.20	233.41	233.14	238.54	213.11
19 Chalouni "	220.01	221.23	256.50	195.60	200.40	180.13	190.76	166.32	187.80	237.73	179.16	181.63	196.92	191.08	184.38
20 Chamurchi "	177.85	157.50	176.15	127.20	222.33	152.49	161.00	165.26	156.86	160.28	180.27	174.76	139.37	174.00	167.27
21 Chengmari "	..	..	..	..	..	..	..	..	..	..	..	..	..	153.60	134.32
22 Chinchula "	..	..	..	..	..	..	..	..	152.67	154.72	130.83	159.04	133.38	128.39	128.68
23 Cooch Behar "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24 Choonabhutti "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25 Chuapara "	..	..	..	157.17	182.01	148.03	181.52	113.73	172.83	179.47	153.64	163.16	147.21	161.82	148.85
26 Chuniajhora "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
27 Dalgaon "	171.67	138.82	139.11	138.16	144.96	124.59	149.12	114.01	153.29	139.82	131.20	126.48	125.25	130.87	128.04
28 Dalingkote "	158.62	178.95	190.90	157.92	170.06	177.60	173.15	146.35	152.94	167.94	155.68	199.31	198.27	182.33	191.91
29 Dalmore "	..	..	..	..	..	..	..	..	..	..	133.61	151.31	148.81	142.25	131.89
30 Dalsingpara "	..	..	..	..	..	..	..	..	..	..	..	..	139.20	129.25	129.35

Annual Rainfall in 23 Tea Gardens in Jalpaiguri
TOTAL ANNUAL RAINFALL (INCHES)

Sl. No.	Tea Garden	Annual Rainfall (Inches)											Total Annual Rainfall (Inches)
		1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	
17	Carron	172.08	10	140.	65.09	51.91	145.	17	167.12	137.72	143.10	159.69	166.93
18	Central Doorars	241.17	56	221.	219.	58	210	2	240.60	207.77	187.50	232.64	243.29
19	Chalouni	198.21	198.21	94.53	206.	84	12	2	210.45	194.37	184.84	196.04	206.52
20	Chamurchi	53.	164.16	61.70	190.	54	36	188.20	143.02	151.52	167.30	168.67	151.34
21	Chengmari	81.12	67.28	158.	18.04	150.03	163.49		180.02	146.45	153.33	170.04	190.57
22	Chinchula	27	7.38	9.46	5.39	122.03	170.45		27.	9.78	87.	44	87.37
23	Cooch Behar											9.43	24.99
24	Choonabhutti		54.		66.3	38.46	166.83	144	168.22	131.21	144.22	58.47	136.45
25	Chua	217.64	162.48	166.97	61.83	180.	151.		99.23	207.02	158.80	07.93	201.79
26	Chu	..	3.48	136.00	54.54	175.	157.		29	147.95	194.19	75.79	210.80
27		177.05	140.45	130.41	46.	67	197.	191.	08	61.48	136.62		141.62
28	Chikote	244.90	204.19	225.61	85.8	93.33	25	2.04	96	238.96			252.83
29		74.42	120.60	140.4	7.02		59	207.	69.65	62	185.18	6.44	188.06
		87.66	147.80	132.88	44.49	125.32	161.36	154.20	7.53	25	137.28	155.99	161.08
													125.
													185
													39.

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate		TOTAL ANNUAL RAINFALL (INCHES)														
		1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
31	Dam Dim	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
32	Danguajhar	..	117.28	106.29	77.04	124.95	132.26	122.74	134.40	110.87	137.07	125.40	110.48	147.62	134.81	141.33 104.24
33	Debpura	..	154.17	179.23	139.17	138.00	123.03	105.41	168.92	117.00	135.17	149.68	136.12	116.29	134.51	145.28 120.52
34	Demdima	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35	Dheklapara	..	..	..	119.51	112.07	102.17	131.36	100.54	102.52	117.00	120.79	117.75	101.48	113.90	114.85
36	Dima	..	..	..	169.26	167.47	133.18	157.59	101.45	133.34	142.46	130.20	148.93	132.41	127.14	110.87
37	Dumchipara	..	159.73	162.52	165.84	165.87	158.95	151.50	166.91	185.84	184.70	164.03	179.39	162.99	163.33	144.43
38	Ellenbarrie	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
39	Ethelbari	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40	Friends	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41	Gairkhata	..	159.51	159.84	152.53	79.27	145.17	135.30	21.64	..	..	..	130.78	126.79	133.98	122.85
42	Gandrapara	..	..	..	..	..	..	..	..	..	..	..	..	..	130.95	112.63
43	Gangutia	..	..	..	..	160.24	137.07	149.47	101.99	144.15	147.47	132.98	146.64	127.45	125.66	124.06
44	Ghatia	..	..	..	..	..	..	..	..	..	169.90	172.94	146.31	159.80	137.40	137.20
45	Gopalpur	..	126.20	119.90	116.75	129.00	109.40	112.70	101.45	106.80	130.00	131.80	137.45	128.85	122.25	126.85 124.55

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
31 Dam Dim	..	..	..	..	..	..	..	..	..	147.08	128.21	147.18	159.32	139.93	129.29
32 Danguajhar	166.23	126.21	136.63	120.51	100.39	135.88	129.36	138.66	107.81	97.80	145.49	141.06	146.13	125.91	146.29
33 Debpara	172.38	134.74	121.45	146.74	120.87	153.68	124.92	161.97	120.86	138.96	151.62	138.25	124.67	165.53	155.95
34 Dendina	..	..	..	..	109.66	140.48	134.01	160.87	115.87	119.85	134.35	131.76	124.88	186.46	177.68
35 Dheklapara	152.40	109.35	126.05	107.25	97.23	114.17	119.65	155.65	118.10	133.82	149.54	140.35	100.78	152.11	173.84
36 Dima	158.89	139.85	119.07	136.70	115.43	167.99	131.47	154.39	115.97	124.89	163.70	167.66	138.25	157.15	178.71
37 Dumchipara	183.02	133.22	146.90	139.20	111.64	148.36	145.11	179.30	136.57	141.31	157.06	175.94	141.24	169.64	181.85
38 Ellenbarrie	..	..	157.14	125.92	133.88	154.63	150.52	175.07	245.34	245.34	154.05	202.87	140.18	170.67	227.93
39 Ethelbari	..	..	..	..	..	147.37	120.08	119.67	93.62	94.77	118.06	120.13	120.78	184.50	219.17
40 Friends	..	..	..	109.49	107.31	151.53	113.10	124.15	131.50	117.83	144.02	155.81	142.98	162.68	152.62
41 Gaikhata	153.36	132.66	119.63	119.38	131.09	164.29	131.23	151.43	94.04	102.89	127.66	144.63	111.41	146.81	135.72
42 Gandrapara	161.20	128.82	116.36	121.20	107.60	132.93	124.23	171.82	111.41	122.08	140.05	133.94	107.55	164.10	157.47
43 Gangutia	166.33	149.48	124.45	139.39	123.00	171.95	135.99	165.58	123.29	135.04	178.91	175.56	141.65	154.72	172.09
44 Ghatia	202.80	151.21	141.19	157.15	148.77	165.84	149.52	179.57	141.59	158.84	179.70	191.15	170.04	191.62	240.90
45 Gopalpur	158.85	127.75	125.10	121.05	109.90	145.60	134.70	153.25	123.50	130.30	139.30	185.65	119.15	165.49	158.35

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Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
46 Gopimohan
47 Grassmore	151.63	138.78	133.71	117.07	160.36	113.41	136.17	145.72	122.66	121.75	145.56	122.24	106.82
48 Gurjaman	123.75	127.00	148.21	124.91	131.66	124.06	141.82	118.38
49 Hahaipatha	146.88	163.72	152.32	163.54	177.58	138.20	160.19	153.89
50 Hantapara	..	151.25	155.72	151.40	138.22	136.49	143.18	103.23	158.74	154.98	137.75	157.45	142.77	137.82	127.46
51 Hilla	..	166.65	173.85	186.29	155.49	151.37	168.56	144.89	162.01	169.10	160.75	152.30	167.00	153.83	149.90
52 Hope	..	212.54	231.77	198.51	190.16	240.10	203.19	191.98	243.59	214.79	220.73	201.04	213.60	212.11	214.99
53 Huldibari	109.33
54 Indong	140.97
55 Jainti	163.16	176.36	182.36	212.48	131.43	204.65	194.35	149.62	182.80	185.35	187.54	142.42
56 Jaldacca Aladanga	108.22
57 Jaybirpara	101.45	116.93	138.25	137.30	130.05	124.71	121.13	112.51
58 Jitu	..	212.60	226.84	228.25	253.87	183.35	169.55	174.32	226.97	233.88	274.56	226.50	179.97	168.91	220.89
59 Jageschandra	123.18	136.58	147.82	128.07	143.54	126.27
60 Joypur	124.92	113.41	107.67	132.83	118.54	130.90	121.98	53.79	107.08	141.31	115.84	139.48	100.00

(Jan.-
July)

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
46 Gopimohan Tea Estate	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
47 Grassmore	159.45	139.99	144.85	135.88	132.15	162.95	123.32	149.27	113.05	131.76	139.01	160.10	154.43	202.80	192.42
48 Gurjaman	156.79	129.75	117.08	132.97	118.98	143.81	131.32	161.04	115.45	138.04	131.62	129.23	118.81	157.57	155.84
49 Hahaipatha	200.58	157.13	173.92	155.81	162.17	163.44	138.05	164.05	154.75	163.71	199.32	200.79	150.72	203.34	197.43
50 Hantapara	164.20	125.46	127.52	128.65	108.44	140.27	136.62	183.27	139.30	147.84	155.82	175.33	126.55	183.70	181.65
51 Hilla	200.49	169.19	182.88	185.06	157.30	172.62	172.63	190.90	165.22	154.81	192.81	187.47	167.11	189.63	205.13
52 Hope	196.08	150.91	221.40	230.06	226.08	218.06	208.36	248.22	249.16	222.42	252.86	260.26	229.51	282.57	282.22
53 Huldubari	165.77	126.41	123.03	124.38	146.48	178.55	152.63	186.89	136.40	126.20	134.92	143.77	111.09	163.72	162.02
54 Indong	201.13	161.34	165.57	160.44	144.26	162.52	163.63	161.15	166.82	159.10	187.12	184.58	157.10	200.89	204.06
55 Jainti	220.24	193.91	159.74	170.40	159.35	203.20	181.88	190.72	175.68	164.36	217.45	242.61	162.47	187.60	225.82
56 Jaldacca Altadanga	147.37	102.47	103.75	100.94	90.79	106.56	101.98	125.85	86.42	95.04	113.27	113.45	115.69	119.51	173.95
57 Jaybirpara	136.83	107.99	124.11	102.82	111.78	133.22	121.54	147.34	113.65	132.40	136.23	139.76	109.29	155.04	157.45
58 Jiti	263.55	187.08	198.25	221.16	208.11	185.61	205.72	251.94	209.60	202.30	246.68	227.08	183.75	216.03	221.05
59 Jageschandra	192.28	122.39	148.01	133.16	111.06	150.65	124.59	157.63	116.30	123.34	154.90	160.45	144.28	142.99	144.02
60 Joypur	153.57	82.55	127.45	123.16	100.71	138.78	121.65	153.34	122.65	119.43	159.01	149.47	169.99	136.13	182.44

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate																

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate	TOTAL ANNUAL RAINFALL (INCHES)													
	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951
61 Kadambini Tea Estate	141.54	110.09	131.17	136.26 (April-Dec.)	98.70	137.38	117.53	150.15	121.95	116.96	118.63	163.31	145.52	112.84
62 Kalabari Rangati "	..	..	..	112.53	114.19	106.87	135.05	150.57	111.63	117.96	146.38	153.62	159.79	155.88
63 Karbala "	153.11	123.53	117.50	115.03	110.22	138.56	126.01	155.01	119.90	131.38	133.07	141.35	109.76	162.48
64 Kartick "	220.68	164.73	154.01	172.14	143.80	195.50	189.85	178.90	170.74	142.86	208.54	213.54	164.46	169.73
65 Katalguri "	175.72	135.08	121.34	150.36	118.11	..	137.50	162.79	117.27	129.02	126.12	188.83	181.28	215.37
66 Killcott "	..	..	..	..	..	183.68	152.62	167.40	164.38	172.74	190.43	195.25	153.36	208.48
67 Kohinoor "	201.96	150.60	144.37	179.78	131.44	190.11	166.39	151.13	138.37	118.03	163.54	186.66	143.08	155.81
68 Kumargram "	215.29	161.45	157.83	188.34	163.05	187.40	167.59	183.72	172.34	157.00	220.23	221.01	174.37	195.86
69 Kumlai "	192.35	146.13	153.67	141.08	122.70	123.96	122.81	130.59	146.09	137.93	169.71	166.21	144.14	164.48
70 Kurti "	208.37	148.34	150.66	142.70	145.36	150.21	159.48	178.79	150.36	149.92	193.46	178.45	168.39	196.98
71 Lankapara "	198.58	145.17	139.28	141.00	124.27	145.94	154.22	159.87	144.83	145.83	149.49	156.42	135.18	193.68
72 Looksan "	189.66	151.42	159.28	161.92	132.17	144.07	135.11	151.65	115.19	134.72	138.99	140.67	131.07	160.54
73 Luxmikanta "	..	..	112.74	99.35	99.58	148.83	139.80	147.95	99.98	102.85	128.86	132.52	104.17	127.81
74 Madhu "	174.20	139.04	131.95	132.63	120.55	175.11	137.35	166.20	125.10	152.60	153.52	158.55	115.10	143.94
75 Manbarrie "	201.45	149.06	183.89	159.06	144.99	167.76	173.73	182.33	205.97	178.01	190.75	228.56	149.82	202.14

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

[illegible]

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

		TOTAL ANNUAL RAINFALL (INCHES)																
		1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952		
Tea Estate		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
76	Mathura	153.96	124.06	145.39	164.47	115.52	154.89	148.14	150.91	145.58	101.92	150.34	154.29	152.01	139.15	151.01		
77	Mechpara	224.79	124.93	136.09	140.36	116.74	160.15	151.37	190.02	141.94	139.06	168.32	161.17	110.28	157.57	184.73		
78	Mogulkata	115.27	116.34	115.75	96.05	97.13	129.74	126.55	148.14	103.29	116.91	139.96	144.97	115.71	157.66	159.89		
79	Mohanlal Ramchandra	249.78	167.26	174.06	188.73	141.40	131.54	115.64	129.46	96.71	100.30	126.43	162.70	125.50	132.05	161.25		
80	Moortee	214.22	181.39	198.30	192.40	170.94	175.44	186.16	189.56	191.04	164.48	195.18	186.56	152.30	186.83	213.66		
81	Mujnai	188.93	122.53	134.05	151.58	129.94	139.29	99.49	109.38	85.93	88.45	95.09	117.80	123.78	155.98	154.84		
82	Nagaisuree	191.28	164.39	168.49	158.41	143.35	143.40	145.82	159.25	175.33	143.67	169.97	174.84	162.83	210.68	214.32		
83	Nagrakata	197.56	166.85	173.74	177.02	163.35	166.94	164.30	179.52	153.19	154.75	195.72	196.96	194.56	197.67	210.46		
84	Nakhati	190.38	171.22	173.83	158.27	149.02	151.11	155.83	156.00	179.05	155.43	181.34	173.10	161.87	242.62	242.16		
85	Nangdala	172.83	112.52	130.23	113.81	124.14	154.71	135.40	152.98	116.82	130.01	139.95	141.67	118.79	165.58	157.64		
86	Nedam	186.56	145.81	160.88	132.46	134.36	135.35	128.47	135.38	120.20	115.42	197.73	205.27	181.60	228.73	243.30		
87	New Doears	176.26	157.98	138.68	162.27	128.23	166.51	149.26	175.93	127.00	139.18	150.64	138.03	134.17	178.99	184.04		
88	New Glance	187.79	141.77	159.38	144.31	133.90	149.14	123.50	148.71	141.91	139.70	182.19	195.83	136.83	175.93	181.64		
89	Newlands	243.02	182.09	173.17	189.29	161.75	216.86	188.05	182.42	176.09	156.33	226.45	229.35	176.46	186.01	208.09		
90	Nimtijhora	..	..	..	..	..	166.13	157.74	158.18	146.32	117.18	142.60	142.72	129.22	125.90	131.23

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
91 Nowera Nuddy Tea Estate	100.47	85.65	86.07	137.52	142.07	135.64	121.24
92 Nuddea Tea Co., Ltd.	152.26	158.53	144.97	132.26	118.83	117.59	144.22	128.87	136.22	144.10	141.72	147.27	141.79	139.95	128.23
93 Nya Sylee Tea Estate	169.27	153.82	145.63
94 Oodlabari	124.64	135.87	106.42	139.04	125.06	81.41	90.36	100.60
95 Patkapara
96 Phaskwa	188.67	192.97	187.97	256.30	228.19	206.58	240.62	175.67	273.90	255.72	199.75	260.46	222.76	203.87	163.42
97 Radharani	146.32	155.47	188.31	109.17	272.89	272.75	146.97	143.63	124.37	138.85	119.98
98 Rabimpur	133.20	96.53	98.55	104.12	90.34	92.92	127.88	113.92	84.92	104.96
99 Raimatang
100 Raipur	(April- Dec.) 109.93	151.22	146.59	142.18	104.43
101 Rajabhat	174.26	176.22	138.48	154.44	106.72	155.24	160.88	142.82	157.38	136.71	130.58	126.14
102 Ramjhora	(April- Dec.) 140.25	153.80	138.01	147.48	125.51
103 Ranicherra
104 Redbank
105 Rheabri	151.57	172.75	146.84	151.27	186.65	162.71	160.84	186.85	176.56	137.44

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

TOTAL ANNUAL RAINFALL (INCHES)

Tea Estate

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
91 Nowera Nuddy Tea Estate	170.15	119.07	127.32	127.58	123.23	140.78	111.31	145.33	105.56	110.43	157.07	160.14	147.08	134.32	157.09
92 Nuddea Tea Co., Ltd.	169.70	146.84	130.46	118.02	116.27	140.54	138.11	177.15	121.62	103.16	149.94	151.59	120.86	155.33	157.44
93 Nya Sylee Tea Estate	199.69	156.86	169.43	178.59	152.22	155.20	168.22	170.32	152.43	142.54	182.06	186.78	175.04	193.57	201.31
94 Oodlabari	122.11	83.25	105.04	92.40	74.87	95.88	77.34	100.90	100.40	98.70	103.32	128.38	155.80	191.95	157.25
95 Patkapara	147.32	142.52	122.98	136.54	98.70	125.82	134.86	112.07	116.59	103.13	121.18	118.26	112.17	96.08	120.50
96 Phaskwa	250.55	220.07	185.93	201.71	184.38	219.42	198.39	220.88	198.23	162.23	196.35	208.64	149.35	200.65	257.23
97 Radharani	183.54	141.71	117.84	169.92	105.00	139.99	152.37	165.98	168.56	103.70	183.20	207.64	126.14	206.98	278.33
98 Rahampur	115.15	118.59	78.67	76.35	85.36	145.99	98.75	103.75	79.54	80.59	110.28	120.48	99.30	125.70	123.30
99 Rainatang	181.99	146.28	135.01	153.13	122.96	172.61	147.44	164.44	128.88	143.51	184.08	168.29	136.41	161.66	182.05
100 Raipur	163.55	118.34	123.62	122.70	103.28	140.89	135.95	151.73	160.78	131.36	158.69	172.74	191.31	165.00	224.31
101 Rajahbhat	161.66	163.87	122.90	140.00	116.88	179.08	145.52	167.47	121.38	137.30	166.04	170.99	155.65	151.69	180.82
102 Ramjhora	162.61	130.07	138.78	135.68	112.73	212.60	198.17	235.71	176.18	175.92	184.04	206.95	153.65	201.01	184.30
103 Ranicherra	..	..	170.39	153.81	141.98	131.49	156.16	165.79	170.95	179.17	161.37	241.44	178.78	227.13	192.28
104 Redbank	..	..	..	..	..	..	..	..	..	117.67	151.91	152.50	118.63	160.86	208.87
105 Rheabri	193.25	151.58	116.48	140.86	125.93	156.29	140.86	172.20	140.18	157.69	217.60	169.65	147.43	162.54	169.19

Annual Rainfalls in 123 Tea Gardens in Jalpaiguri District, 1923-52—contd.

Tea Estate		TOTAL ANNUAL RAINFALL (INCHES)															
		1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
106 Rydak	Tea Estate	..	183.66	189.68	171.32	186.97	164.22	177.97	124.61	169.71	174.20	141.42	165.33	150.87	155.64	122.28	
107 Sam Sing	"	..	215.05	214.57	229.04	198.40	203.66	211.80	228.10	195.02	229.44	217.31	203.09	206.06	202.41	218.70	
108 Sankos	"	..	181.30	202.47	207.02	187.91	207.66	187.03	226.15	123.71 (June- Dec.)	191.00	196.72	167.70	199.63	158.71	160.62	
109 Sarugaon	"	..	..	..	..	..	..	..	..	148.39	128.58	99.98	134.90	115.50	123.12	120.78
110 Satali	"	..	161.23	176.62	163.45	162.82	139.36	170.46	96.77	172.35	174.48	143.79	160.72	143.56	135.23	142.37	
111 Sathkyah	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	127.92
112 (Sissubari) Good Hope	"	..	138.34	167.08	155.41	145.33	144.55	147.74	165.47	114.62	152.30	126.63	147.04	149.29	129.79	153.48	
113 Soongachi	"	..	163.52	191.47	187.22	143.11	145.30	149.55	162.01	136.27 (Jan.- June)	158.29	158.17	158.02	177.85	147.02	161.88	
114 Subbasini	"	..	..	..	..	..	..	155.37	50.87	168.07	161.70	166.40	216.50	155.54	137.35	121.38
115 Sylu	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
116 Tasati	"	..	..	..	..	..	..	..	126.73	143.99	147.15	131.16	146.70	127.60	140.76	122.96
117 The Bengal Doocars National Tea Co., Ltd.	..	..	..	..	..	..	..	..	..	..	..	149.39	156.10	150.43	142.62	116.14
118 Tondoo	Tea Estate	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
119 Toonbarrie	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
120 Toorsa	"	..	..	..	..	..	..	..	..	164.06	177.33	168.46	185.06	193.02	164.38	148.43
121 Totapara	"	..	152.12	158.53	144.97	133.01	118.83	117.59	144.22	122.87	136.22	144.10	141.72	147.47	141.79	139.95	
122 Washabarie	"	..	..	..	169.02	176.04	167.38	199.59	196.77	205.13	202.54	187.30	207.43	182.82	182.30	189.91
123 Yong Tong	"	..	..	..	178.54	190.39	187.25	199.22	173.13	201.81	187.65	172.41	176.32	177.98	170.58	164.44

Tea Estate	TOTAL ANNUAL RAINFALL (INCHES)														
	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952
1106 Rydak	204.19	153.83	150.80	164.12	132.18	173.62	186.83	175.53	161.97	137.94	200.91	198.80	164.26	164.25	206.96
1107 Sam Sing	267.90	218.99	213.96	232.08	212.64	212.02	247.56	240.71	234.54	208.71	240.01	225.47	207.78	266.72	313.11
1108 Sankos	211.89	155.26	147.41	162.25	144.12	181.46	171.77	174.44	154.71	143.41	222.90	215.55	174.32	193.60	203.60
1109 Sarugaon	125.24	131.65	114.43	120.01	97.53	148.67	131.31	159.51	107.46	84.38	128.92	148.98	131.71	137.97	142.08
1110 Satali	175.90	158.06	151.64	140.68	128.53	171.32	164.50	169.18	128.92	143.91	159.19	153.07	109.63	150.21	169.28
1111 Sathkyah	176.65	137.84	162.82	137.60	121.08	165.72	159.15	143.53	147.97	142.98	185.44	189.51	136.60	186.67	189.30
1112 (Sisubarn) Good Hope	174.83	137.12	144.27	137.02	114.45	132.37	123.20	135.22	128.78	146.93	169.19	181.15	128.35	205.87	200.14
1113 Soongachi	180.35	131.90	150.31	130.48	133.47	137.91	121.86	138.58	132.47	135.44	154.60	140.51	126.74	172.30	172.16
1114 Subhasini	162.47	116.93	112.04	120.23	98.40	162.40	147.19	172.78	123.35	165.05	164.10	138.52	121.85	146.86	178.21
1115 Sylu	147.93	169.75	137.14	136.66	137.05	137.05	14.43	155.73	164.25	160.68	176.72	195.62	144.90	192.86	189.11
1116 Tasati	153.90	137.82	121.55	142.38	133.05	173.57	157.71	174.35	132.78	169.91	167.50	183.62	125.29	159.37	181.07
1117 The Bengal Dooars National Tea Co., Ltd	209.41	148.42	153.38	184.05	138.27	193.01	186.48	163.65	142.75	122.78	160.65	189.98	141.08	146.19	174.94
1118 Tondoo	125.30	115.43	111.13	182.20	123.26	171.30	126.59	125.32	159.85	134.86	120.97	144.71	155.53	157.85	210.23
1119 Toonbarrie	141.68	154.28	224.27	144.45	146.52	133.49	149.03	151.55	172.05	170.08	193.35	133.55	133.55	157.85	210.23
1120 Toorsa	223.55	157.43	160.12	157.00	187.56	169.72	188.18	206.92	174.26	158.82	188.58	210.14	144.45	210.55	229.24
1121 Totapara	169.70	146.84	130.46	118.02	116.27	140.58	138.11	177.15	121.62	130.16	149.94	151.59	120.86	155.33	157.44
1122 Washabarrie	230.49	169.53	182.94	171.65	155.03	183.24	177.53	158.23	212.35	198.79	229.66	286.11	199.68	260.58	244.51
1123 Yong Tong	203.76	172.90	174.83	178.45	163.16	173.90	183.06	189.70	192.17	170.68	201.42	212.57	180.74	241.32	231.87

HISTORY

The history of the district of Jalpaiguri contains little that does not come incidentally in the history of Assam or the large tract of country in the north-east called Pragjyotish. In weaving a history for the district the chief source so far has been Francis Buchanan Hamilton whose writings have been successively mutilated by W. W. Hunter, Glazier and J. F. Gruning. The full account of Francis Buchanan Hamilton, as was available from Martin's *Eastern India*, is reprinted as an appendix elsewhere in this volume. There is very little with which to supplement his account. A brief history of the Bhutanese war has already been given.

British rule—After the annexation of the Duars in November 1864, they were divided into the Eastern and Western Duars, the former of which now forms part of the district of Goalpara in Assam. The Western Duars was divided into three *tahsils*, *viz.* :—the Sadar, comprising the tract of country between the Tista and Torsa rivers with its headquarters at Mainaguri, the Buxa *tahsil* extending from the Torsa to the Sankos rivers with its headquarters at Alipur; and the Dalingkot *tahsil*, which includes the mountainous part of the annexed territory. F. A. Donough, Assistant Commissioner, was deputed to Mainaguri for criminal and civil work and was succeeded, after a few months, by J. Tweedie, who was appointed in 1866 the first Deputy Commissioner of the Western Duars. Donough then went to Buxa as Civil Officer and was succeeded in 1867 by Colonel Hedayat Ali Khan. In 1867-8 Buxa was formed into a regular subdivision. In January 1867 the Dalingkot *tahsil* was transferred to the Darjeeling district and at the same time the criminal jurisdiction of the Titalya subdivision of Rangpur, comprising the police circles of Boda, Sanyasikata (now Rajganj) and Fakirganj (now Jalpaiguri), was made over to the Deputy Commissioner of the Western Duars, the civil and revenue jurisdiction remaining with Rangpur. This arrangement lasted until January 1st, 1869, when the Titalya subdivision was separated completely from Rangpur (with the exception of the civil jurisdiction) and was united to the Western Duars to form the district of Jalpaiguri. The Deputy Commissioner removed his headquarters from Mainaguri to Jalpaiguri town, on the west bank of the Tista, and the district was divided into two subdivisions—the Sadar, which included the former Titalya subdivision and that part of the Western Duars, which lies between the Tista and the Jaldhaka rivers; and the Falakata subdivision which comprised the rest of the Buxa subdivision, the headquarters of the Subdivisional Officer being removed from Buxa to Falakata. The headquarters of this subdivision were again transferred to Alipur in 1876. On April 1st, 1870, the civil jurisdiction of the Titalya subdivision was vested in Jalpaiguri and the Patgram police circle was transferred to the Falakata subdivision. In 1874-5 Pat-

gram was attached to the Sadar subdivision, and since this change, the Jalpaiguri district has remained unaltered. The changes brought about by the Partition of 1947 have already been described.

THE PEOPLE

It has been stated already that the Jalpaiguri district consists of two well defined parts, *viz.* :—the permanently settled *parganas* which used to form part of Rangpur, and the Western Duars which were annexed in 1865 at the time of the Bhutan war.

Early Censuses—The first attempt to enumerate the people was made in 1858-9, at the time of the Revenue Survey of Rangpur, when a rough census was held and it was found that the population of the permanently settled part of the Jalpaiguri district was 189,067; there is nothing to show how the enumeration was made, and the Deputy Commissioner reported in 1870 that he was of opinion that the estimate was too low. His views were proved to be correct by a census taken in 1871-2. It was found impossible to conduct a simultaneous census and a gradual enumeration was made which lasted throughout the cold weather; great difficulties were experienced owing to the illiterateness of most of the village headmen, who were appointed enumerators, and to the widely scattered hamlets, called by the same name, which together constituted a *mauza*. The work was, however, pushed through and the population was found to be 327,985 inhabiting an area of 1,026 square miles, giving an average density of 320 to the square mile. Between 1872 and 1891 there were various changes of jurisdiction so that the variations in the population cannot be accurately stated; it does not appear that there was any increase during 1881-1911, but it must be remembered that there was a steady drift of the people into the Western Duars where the land was fertile and the rates of rent low, and to a less extent into the Siliguri subdivision of the Darjeeling district.

The Western Duars—At the close of the Bhutan war, a survey of the Western Duars was made in 1865-7, and rough estimate made by the Survey Officers returned the population at 49,620. It cannot be expected that this census was very accurate, but the country had long suffered from the depredations of the Bhutias, and it is probable that many of the inhabitants left their homes temporarily during the war. In 1870 the Deputy Commissioner made the first settlement of the Western Duars and conducted a special census in connection with it; this showed the population to be 100,111. After making due allowances for errors in the enumeration made in 1865, it is clear that a migration of the people of the neighbouring districts to the fertile waste lands of the Western Duars began as soon as British rule ensured the safety of life and property. Subsequent censuses showed an even more remarkable increase of population; in 1881

it had increased to 182,687, in 1891 to 296,348 and in 1901 to 410,606.

Jalpaiguri, and to a smaller extent Darjeeling, have registered the most impressive increases in population since 1872, and the Statement below is a record which surpasses even the most spectacular increases in Howrah, 24-Parganas or Calcutta. During 1872-1921 the population of the district increased by 244.2 per cent., which for individual police stations mounted higher and higher as one went farther east until in Kalchini, Alipur Duars and Kumargram the increment amounted to the fantastic figure of 1,042.3 per cent. The centrally situated police stations increased by as much as 300 to 700 per cent. Between 1901 and 1951 the increase was a little less stupefying but very impressive, nevertheless, being as much as 298.3 per cent. in Kalchini. The over all increase for the district was 67.8 per cent. The growth between 1921 and 1951 was the least, amounting roughly to a little over 1.0 per cent. per annum indicating that immigration of labour in the tea gardens and of cultivators in the forests and agricultural spaces had already reached a very substantial level in 1921. It is easy to appreciate the great change that has come over the population of the district in the course of eighty years and the polyglot character of the immigrant population.

Jalpaiguri comprises two distinct tracts, *viz.*, (1) the regulation portion, formerly part of a subdivision of Rangpur, which includes all the country that lies west of the Tista; (2) the Western Duars taken from Bhutan after the war of 1864-5 or all the country east of the Tista. The first or regulation tract has been long settled, and except in the north, it had a fairly dense population. The second or what was so long the 'non-regulation' area east of the Tista, on the other hand, was very sparsely populated when first acquired. The former tract was decadent until very recently, while the latter is very progressive. The first tea garden was opened in 1874 and others followed so rapidly that in 1881 there were 47 tea estates with 5,637 acres under tea. In 1891 there were 79 gardens with 35,683 acres of tea, and in 1901, 235 gardens with 76,403 acres. Apart from the tea gardens, the settlement of land for ordinary cultivation progressed rapidly; the rates of rent were very low, and cultivators were attracted not only from the police stations west of the Tista, but also from Rangpur and Cooch Behar. During 1891-1901 the settlement of lands in the Duars for ordinary cultivation continued to progress. The crops were good and the growing demands for labour met by extensive importation from other places. The Bengal Duars railway line commenced in 1893 connecting Domohoni to Dam Dim and Lataguri to Ramshai, and a workshop was opened in connexion with the former, employing nearly 1,000 workmen. There were no specially serious outbreaks of epidemic disease, but fever was always prevalent and in eight out

of the ten years the district figured amongst six districts with the highest recorded mortality from fever in the State. During 1901-11 the central police stations filled up rapidly, and cultivation extended in Alipur Duars in every direction. There was a constant stream of immigration attracted by the fertility of the land and the lowness of the rents. The Dam Dim-Odlabari-Bagrakot railway line opened in 1901-2 and the Mal-Chalsa-Chengmari-Dalgaon-Madarihah line in 1901-3. Between 1911 and 1921 the Chalsa-Matiali line was opened in 1918 and almost all that was not taken up for tea or remained reserved forest was brought under cultivation. But the increase during 1911-21 was very much less than in the 20 years before. The reason was that the tea industry ever since 1898 did not flourish as it had done earlier. The birth rate ran comparatively high but the district being very malarious, the death rate was also very high and would be higher still but for the careful attention given by tea garden managers to the health of their labour. During 1921-31 the agricultural population suffered from distress caused by the very low price of tobacco. New tea gardens were opened in Sadar, Kumargram, Madarihah and Kalchini police stations. Public health measures greatly improved during the decade. During 1931-41 Alipur Duars subdivision saw steady immigration and in 1931-3 several miles of railway line were extended from Domohoni to Barnesghat and elsewhere. The fall in agricultural prices hit the population towards the end of the decade but with the opening of the Far Eastern Front in 1942 Jalpaiguri and especially Alipur Duars subdivision sprang into sudden importance. A number of large air strips were built all over the Duars and Alipur Duars subdivision and the towns were practically rid of malaria by army efforts. The roads were improved and the tea industry prospered as never before. In the 1943 famine although the district of Jalpaiguri itself remained unaffected, it attracted distressed persons from Rangpur. There was a devastating flood in the Tista in June 1950 which completely submerged 56 mauzas in Mainaguri and Mal police stations and 3 wards of Jalpaiguri municipality. An area of about 30 square miles was affected on either bank of the river and although the loss of human lives was small, 4,135 families with a population of 17,779 were affected, 3,163 head of cattle were lost and 25,460 maunds of foodgrains were destroyed. Standing jute and paddy over about 1,154 acres were lost and 1,171 houses damaged. Large settlements of Displaced persons were made in Rajganj and Jalpaiguri; the most important being Phatapokhori midway on the road between Siliguri and Jalpaiguri. The district has seen a great deal of activity since 1947 on account of the new Assam Rail Link Project, the development of Alipur Duar town as a large railway centre, and several road building projects connecting Assam and the Duars.

The following statement illustrates the progress of the tea industry in Jalpaiguri district:

Statistics of tea in Jalpaiguri, 1874-1951

Year	No. of tea gardens	Total area in acres under tea	Approximate yield in lbs.	Average yield in lbs. per acre of mature plants	Number of labourers employed		
					Permanent	Temporary	Total
1	2	3	4	5	6	7	8
1874	1	..	..	..	..	..	..
1881	47	5,637	..	..	..	..	..
1891	79	35,683	..	..	..	..	..
1901	235	76,403	31,087,537	441	47,365	21,254	68,619
1911	191	90,859	48,820,637	583	56,693	18,622	75,315
1921	131	112,688	43,287,187	426	86,693	1,871	88,564
1931	151	132,074	66,447,715	534	112,591	4,262	116,853
1941	189	131,770	94,604,450	765	136,491	4,896	141,387
1951	158	134,473	137,194,660	1,020	..	..	178,009

Source :—Administration of Bengal and Indian Tea Statistics.

The population of labourers in 1951 is inserted from State Table B III of 1951.

The statement shows several things. First, that soon after a tea estate has developed to a certain extent it is likely to be absorbed in a bigger limited company, so that although the acreage increases the number of separate tea estates is kept down to improve efficiency of organisation and economy of costs. Secondly, the average yield per acre, by a triumph of good management and organisation, has progressively increased. Thirdly, since 1931 there has been very little in-

crease in the acreage under tea indicating that a great deal of exploitable land has already been utilised, and plantation is approaching maximum expansion. Fourthly, the temporary employment has more and more given way to permanent tenures, but the uncertainty of the tea market since 1931 has made it profitable to keep a proportion of temporary labourers. Nevertheless the overwhelming majority of permanent labourers indicates a settled labour policy.

Percentage of age groups and of married women (15-40) to total population and of children (0-5) to married women (15-40) in Jalpaiguri, 1901-51

Year	Percentage of persons, males and females to total population						Percent- age of married women (15-40) to total population 8	Percent- age of children (0-5) to total married women (15-40) 9
	Age group 0-15			Age group 15-60				
	P	M	F	P	M	F		
1	2	3	4	5	6	7		
1901	39.5	38.2	41.0	56.2	57.3	54.7	15.8	86.6
1911	39.6	37.8	41.8	56.4	57.8	54.6	16.2	87.6
1921	40.0	38.5	41.7	56.5	57.7	55.3	16.4	81.1
1931	39.5	37.7	41.6	57.8	59.5	55.8	16.6	91.4
1941	38.0	36.2	40.0	59.3	60.7	57.7	17.3	76.7
1951	39.8	37.0	43.2	57.7	60.0	54.9	16.0	98.0

The statement shows what a comparatively young population Jalpaiguri has in spite of the fact that it is more based on an industrial economy than a rural one. It seems to suggest that already in 1901 immigration of adult labourers had diminished and the district had come to have a settled labour population who were begetting their successors.

The specific mortality among male children was higher than among girls, while in the adult population the tables were turned and it was

women who suffered from a higher specific mortality. The proportion of the adult working population is certainly low for an industrial zone. The size of the unitary family shows an upward trend on account of continued improvement in health measures. Column 9 for 1921 shows the extent to which the influenza epidemic carried off the younger age group of 0-5, and the same column for 1941 indicates that there must have been a large number of bogus entries for married women in the 1941 count.

Immigration and emigration in Jalpaiguri from and outside the State, 1891-1951

	1951	1941	1931	1921	1911	1901	1891
Actual population	914,538	845,702	739,160	694,056	661,282	544,906	433,334
Immigration	278,842	156,765	158,757	163,024	152,174	95,899	44,329
Emigration	5,356	3,198	2,682	7,000	2,300	105	1,280
Natural population	641,052	692,135	583,085	538,032	511,408	449,112	390,285
Percentage variation	-7.4	+18.7	+8.4	+5.2	+13.9	+15.1	..

The figure of immigrants for 1951 includes 98,572 Displaced persons. According to the West Bengal Government 50,000 Muslims migrated from this district to East Bengal during 1947-51 of whom 35,000 later returned. As the above statement will show there has been far more immigration from outside the State,—from Chota Nagpur and the Santal Parganas—than from within Bengal. The steadiness of the figure of immigration suggests that the district has almost reached saturation point respecting employable labour, and also that the labour corps

is periodically exchanged by a process of repatriation of an older generation and recruitment of a younger one. The district has never seen much of indentured adult male labour, as happened in Assam, because in every decade the even proportion of male and female immigrants indicates that the tea companies of the district were from the beginning set on a stable labour policy and on acquiring families of labourers instead of so many workers without attachment of family ties and therefore without a stake in their jobs.

Migration between Jalpaiguri and other districts of Bengal in 1891-1921 and West Bengal in 1951

Year	Immigration				Emigration			
	From contiguous districts		From other districts		To contiguous districts		To other districts	
	M	F	M	F	M	F	M	F
1891	30,920	27,835	12,431	7,641	8,343	10,076	120	95
1901	24,354	23,856	65,272	48,636	7,114	9,627	247	98
1911	18,000	15,000	15,000	10,000	7,000	10,000	300	100
1921	21,000	19,000	5,000	4,000	6,000	9,000	500	500
1951	8,069	7,308	6,302	4,668	3,051	1,986	3,103	2,025

While the first Statement mainly relates to migration in tea estates of the district, the second Statement reflects migration in the agricultural areas. The diminishing returns show how rapidly the agricultural spaces were filled up and the evenness of male and female immigrants shows that colonisers moved into the district in families rather than singly. The figures for 1951 are so small that they suggest casual or periodic migration on business or service and not with the intent of settling on the land as colonisers. They also suggest that immigrants in the past mostly came from districts which are now in East Pakistan. They also suggest visits by the progeny of old time settlers to their ancestral homes and other places.

The countryside, except the portion south of the Mahananda river of Siliguri police station, is organised on an industrial economy of tea plantations rather than agriculture. The pattern of production is industrial, even as South America, the country of grain and livestock, is industrial rather than agricultural. The land is accordingly managed in these two districts in large blocks under tea estates, and the product of the soil is collected, processed, packed, shipped, marketed and sold according to orthodox industrial patterns. An intense network of excellent roads have been built over the face of this area solely with the object of supervising the industry, reducing transport charges, waste of time, and bottlenecks. Everything is rationalised and mechanised to a degree, and if the industry is to survive competition from Africa and Indonesia it will have to go still further and mechanise picking and tending the tea bushes as well, because already the cost of manual labour on these accounts is reaching prohibitive ceilings. Under such circumstances this district cannot afford to set up agriculture as a serious rival to the tea industry and employers must limit ordinary cul-

tivation to the minimum at which they can keep their labour force attached to the garden with the slender bond of a piece of land which the latter can call its own, cultivate, raise vegetables, and inferior corn. The rest of the land must be put under (a) timber needed for the factory and plantation, (b) shade trees for wind breaks, embankments, terraces and (c) reserves for rotation of nurseries and bushes. The change in recent food habits in this district by virtue of which rice has rapidly supplanted coarser grain in the diets of plantation labour has been noticed in another section, but rice is expensive and arduous to grow and tea garden managements cannot afford to let their labour consume time and energy over rice cultivation. They would rather buy rice at a high price and import it by costly airlifts than turn over land to paddy. This is quite in the fitness of things, because tea must be grown and money earned in foreign markets to buy essential articles for the country's growth. It would be unwise to destroy one of the very few paying industries the country possesses for a handful of grain which is easily secured elsewhere. On the other hand, whatever land is available is eagerly snapped up by jute, raw material for the most important single industry in West Bengal, if not in the Union, and between tea, jute and tobacco, cultivation of grain in Jalpaiguri will have a lean time, over which one cannot reasonably grumble. Thus things being as they are and should be, there is little wonder at the low density of these districts and the slow pace at which it has grown since 1921. This has already been observed before, and it is obvious that most police stations in these two districts have reached their saturation point beyond which under the present set-up of industrial production, growth will only be a parasite drag on the food resources of the State elsewhere.

The following statement shows the growth of population in Jalpaiguri district between 1872 and 1951 :

Population of administrative divisions of Jalpaiguri with variations, 1872-1951

District and Police Station 1	Population 1951	Variation 1941-51 3	Population 1941	Variation 1931-41 5	Population 1931 6	
JALPAIGURI DISTRICT	914,538	+ 68,836	845,702	+ 106,542	739,160	
Sadar Subdivision	546,142	+ 21,268	524,884	+ 58,797	466,087	
Jalpaiguri	115,459	+ 15,090	100,369	+ 14,848	85,521	
Rajganj	51,723	+ 596	51,127	+ 1,722	49,405	
Mainaguri	88,315	— 5,746	94,061	+ 15,794	78,267	
Nagrakata	42,389	+ 2,415	39,974	+ 513	39,461	
Dhupguri	110,910	+ 9,322	101,588	+ 13,418	88,170	
Mal	88,158	— 6,970	95,128	+ 11,180	83,948	
Matiali	49,188	+ 6,551	42,637	+ 1,322	41,315	
Alipur Duars Subdivision	368,396	+ 47,578	320,812	+ 47,746	273,078	
Madarihat	59,486	+ 6,069	53,417	+ 6,551	46,866	
Falakata	55,700	+ 3,306	52,394	+ 5,410	46,984	
Kalchini	85,609	+ 7,756	77,853	+ 15,607	62,246	
Alipur Duars	119,038	+ 23,543	95,495	+ 14,612	80,883	
Kumargram	48,563	+ 6,904	41,659	+ 5,565	36,094	
	Variation 1921-31 7	Population 1921 8	Variation 1911-21 9	Population 1911 10	Variation 1901-11 11	Population 1901 12
JALPAIGURI DISTRICT	+ 45,104	694,056	+ 32,774	661,282	+ 116,376	544,906
Sadar Subdivision	+ 15,262	450,826	— 7,766	468,581	+ 33,028	425,553
Jalpaiguri	+ 5,269	79,952	5,831	85,783	+ 3,459	82,324
Rajganj	5,728	55,133	994	56,127	+ 4,151	51,976
Mainaguri	3,180	81,447	816	82,263	+ 6,950	75,313
Nagrakata	+ 1,512	37,949	381	38,330	+ 3,238	35,092
Dhupguri	+ 8,921	79,249	794	80,043	+ 6,762	73,281
Mal	+ 321	83,627	+ 757	82,870	+ 6,048	76,822
Matiali	+ 7,847	33,468	+ 303	33,165	+ 2,420	30,745
Alipur Duars Subdivision	+ 29,842	243,231	+ 40,530	202,701	+ 83,348	119,353
Madarihat	+ 6,797	40,069	+ 4,169	35,900	+ 12,504	23,396
Falakata	+ 2,093	44,891	+ 4,670	40,221	+ 14,010	26,211
Kalchini	+ 13,475	48,771	+ 9,766	39,005	+ 17,513	21,492
Alipur Duars	+ 5,902	74,981	+ 15,013	59,968	+ 26,925	33,043
Kumargram	+ 1,575	34,519	+ 6,912	27,607	+ 12,396	15,211
	Variation 1891-1901 13	Population 1891 14	Variation 1881-91 15	Population 1881 16	Variation 1872-81 17	Population 1872 18
JALPAIGURI DISTRICT	+ 111,572	433,334	+ 116,759	316,575	+ 114,916	201,659
Sadar Subdivision	+ 64,666	360,887	+ 88,073	271,914	+ 94,729	177,185
Jalpaiguri	— 584	82,908	+ 7,490	75,418	+ 20,952	54,466
Rajganj	— 2,102	54,078	— 4,392	58,470	+ 11,388	47,082
Mainaguri	+ 17,897	57,416	+ 22,021	35,395	+ 15,998	19,397
Nagrakata	+ 8,339	26,753	+ 10,261	16,492	+ 7,455	9,037
Dhupguri	+ 17,414	55,867	+ 21,427	34,440	+ 15,567	18,873
Mal	+ 16,927	59,895	+ 22,972	36,923	+ 16,690	20,233
Matiali	+ 6,775	23,970	+ 9,194	14,776	+ 6,679	8,097
Alipur Duars Subdivision	+ 46,906	72,447	+ 27,786	44,661	+ 20,187	24,474
Madarihat	+ 8,576	14,820	+ 5,684	9,136	+ 4,129	5,007
Falakata	+ 9,608	16,603	+ 6,368	10,235	+ 4,626	5,609
Kalchini	+ 8,851	12,641	+ 4,848	7,793	+ 3,523	4,270
Alipur Duars	+ 13,607	19,436	+ 7,454	11,982	+ 5,416	6,566
Kumargram	+ 6,264	8,947	+ 3,432	5,515	+ 2,493	3,022

The undermentioned table shows the above variations as percentages of the population of the previous decade or group of decades :

Percentage variations in population of Jalpaiguri from decade to decade, 1872-1951 Percentage Variation

	1901-51	1921-51	1872-1921	1941-51	1931-41	1921-31	1911-21	1901-11	1891-1901	1881-91	1872-81
JALPAIGURI DISTRICT											
• + 67.8	+ 31.8	+ 244.2	+ 8.1	+ 14.4	+ 6.5	+ 5.0	+ 21.4	+ 25.7	+ 36.9	+ 57.0	
<i>Sadar Subdivision</i>	• + 28.3	+ 21.1	+ 154.4	+ 4.1	+ 12.6	+ 3.4	— 1.7	+ 7.8	+ 17.9	+ 32.7	+ 53.5
Jalpaiguri	• + 40.2	+ 44.4	+ 46.8	+ 15.0	+ 17.4	+ 7.0	+ 6.8	+ 4.2	— 0.7	+ 9.9	+ 38.5
Rajganj	• — 0.5	— 6.2	+ 17.1	+ 1.2	+ 3.5	— 10.4	— 1.8	+ 8.0	— 3.9	— 7.5	+ 24.2
Mainaguri	• + 17.3	+ 8.4	+ 319.9	— 6.1	+ 20.2	— 3.9	— 1.0	+ 9.2	+ 31.2	+ 62.2	+ 82.5
Nagrakata	• + 20.8	+ 11.7	+ 319.9	+ 6.0	+ 1.3	+ 4.0	— 1.0	+ 9.2	+ 31.2	+ 62.2	+ 82.5
Dhupguri	• + 51.3	+ 40.0	+ 319.9	+ 9.2	+ 15.2	+ 11.3	— 1.0	+ 9.2	+ 31.2	+ 62.2	+ 32.5
Mal	• + 14.8	+ 5.4	+ 313.3	— 7.3	+ 13.3	+ 0.4	+ 0.9	+ 7.9	+ 28.3	+ 62.2	+ 82.5
Matiali	• + 60.0	+ 47.0	+ 313.3	+ 15.4	+ 3.2	+ 23.4	+ 0.9	+ 7.9	+ 28.3	+ 62.2	+ 82.5
<i>Alipour Duars Subdivision</i>	• + 208.7	+ 51.5	+ 893.8	+ 14.8	+ 17.5	+ 12.3	+ 20.0	+ 69.8	+ 64.7	+ 62.2	+ 82.5
Madarihat	• + 154.3	+ 48.5	+ 700.3	+ 11.4	+ 14.0	+ 17.0	+ 11.6	+ 53.4	+ 57.9	+ 62.2	+ 82.5
Falakata	• + 112.5	+ 24.1	+ 700.3	+ 6.3	+ 11.5	+ 4.7	+ 11.6	+ 53.5	+ 57.9	+ 62.2	+ 82.5
Kalchini	• + 298.3	+ 75.5	+ 1,042.2	+ 10.0	+ 25.1	+ 27.6	+ 25.0	+ 81.5	+ 70.0	+ 62.2	+ 82.5
Alipour Duars	• + 260.3	+ 58.8	+ 1,042.0	+ 24.7	+ 18.1	+ 7.9	+ 25.0	+ 81.5	+ 70.0	+ 62.2	+ 82.5
Kumargram	• + 219.3	+ 40.7	+ 1,042.3	+ 16.6	+ 15.4	+ 4.6	+ 25.0	+ 81.5	+ 70.0	+ 62.2	+ 82.5

The following statement shows the variations in the density per square mile in the police stations and subdivisions of the district between 1872 and 1951.

Variations in density (persons per square mile) of subdivisions and police stations of Jalpaiguri district, 1872 to 1951

	1951	1941	1931	1921	1911	1901	1891	1881	1872
JALPAIGURI DISTRICT	385	356	311	292	279	229	183	133	85
<i>Sadar Subdivision</i>	421	405	360	348	354	328	278	210	137
Jalpaiguri	622	541	461	431	462	444	447	406	293
Rajganj	210	208	201	224	228	211	220	238	192
Mainaguri	351	374	311	324	327	299	228	141	77
Nagrakata	397	375	370	356	364	329	251	155	85
Dhupguri	512	469	407	366	369	338	258	159	87
Mal	447	482	425	424	420	389	303	187	102
Matiali	534	463	440	363	360	334	260	160	88
<i>Alipur Duars Subdivision</i>	342	297	253	226	188	111	67	41	49
Madarihat	405	364	319	273	244	159	101	62	34
Falakata	454	427	383	366	328	214	135	83	46
Kalchini	249	226	181	142	113	62	37	23	12
Alipur Duars	441	354	300	278	222	123	72	44	24
Kumargram	249	214	185	177	142	78	46	28	16

The following statement shows changes in the proportion of the sexes during 1901 to 1951:

Proportion of the Sexes 1901-1951, Total, Rural and Urban

	(Females per 1,000 males)		
	Total	Rural	Urban
1951 (without persons) placed	826	838	608
1951	825	838	679
1941	836	846	594
1931	830	838	581
1921	856	862	616
1911	829	834	559
1901	843	849	580

The only towns in the district are Jalpaiguri and Alipur Duar, the rest of the district being entirely rural. Buxa Cantonment was so long considered as a cantonment town, but in the census of 1951 it is no longer considered as one.

The following statement shows the percentage of population living in villages and towns of various population sizes with reference to the total population of the district in 1951:

Less than 500	.. 6.48
500 to 1,000	.. 26.70
1,000 to 2,000	.. 20.93
2,000 to 5,000	.. 27.48
5,000 to 10,000	.. 8.40
10,000 to 20,000	.. 2.78
20,000 to 50,000	.. 7.23

The following table shows the progress of certain classes of villages and towns in 1901, 1921 and 1951:

Towns and villages classified by population

		1951	1921	1901
Less than 2,000	Percentage of number of villages and towns	87.40	80.74	85.29
	Percentage of total population	54.11	40.92	45.80
2,000 to 10,000	Percentage of number of villages and towns	12.08	18.84	14.19
	Percentage of total population	35.88	54.69	47.39
Above 10,000	Percentage of villages and towns	0.52	0.42	0.52
	Percentage of total population	10.01	4.39	6.81

The growth of the population of the Western Duars is due to the influx of settlers from other districts and from Cooch Behar and also to the phenomenal growth of the tea industry. Tea was first grown in the district in 1874-75, the first tea garden being laid in 1873. Since that time the industry has made rapid progress. To work these gardens a large amount of labour is required, and this led to an enormous influx of labourers, viz., from the Chhotanagpur and Santal Parganas. Ranchi alone supplies the bulk of Oraons and Mundas, and the Santal Parganas most of the Santals. It is interesting that even

in remote *hats* and bazars of Jalpaiguri, as in Sachafu and Bholka forests, dyed palm leaves are imported from Ranchi and sold in the weekly *hat* to provide ornaments for the ear for Oraon and Munda women. In gardens on the slopes of the hills the labour force is mainly composed of Nepalis. Oraons are hard-working and make excellent cultivators. Many Nepalis have taken up land, as for example in the Turturi in Alipur, others own large herds of buffaloes out of which they make much profit. The Meches make very good forest labourers and so do Garos. There is a peculiar sect of Nakchhedias who are good foresters, but have unpredictable tempers. There is quite a large population of Rabhas. A very illuminating note on the Rabhas will be found in Francis Buchanan Hamilton's account published elsewhere in this volume. Jalpaiguri district comprises a large conglomeration of different tribes. The most authentic account of some of the tribes is that recorded by D.H.E. Sunder in the Settlement Report of 1895, and from which large sections have been reproduced as an appendix in this volume.

Santals were systematically inducted and colonized in the district. As early as August 1876 a scheme was projected by Col. Money and sites were selected in the Falakata *tahsil*. Next year the proposal was cancelled and the scheme dropped. D.H.E. Sunder gives an account of the next effort of colonisation as follows:

While holding charge of Buxa subdivision, I communicated with Mr. Stark, Deputy Magistrate, who was then in charge of the Damini forests, in the Santal Parganas, and I also sent my Sonthal servants, at my own cost, to that district to find out whether Sonthals would be willing to come and settle in the waste lands of the Western Duars. The reports which reached me made me very hopeful that they would do so, and I accordingly recommended, in my letter No. 769G. of the 4th January 1890, to the Deputy Commissioner of Jalpaiguri, that a Sonthal colony be started in the Duars. Rev. A. J. Shields, of the Church Missionary Society, then came from Godda with a party of Sonthals, who were so pleased with the land which I had selected for them between the Gaddadhar and Rydak rivers, east of Alipur, that a batch of 500 of them — men, women, and children — came and settled there in the following year, and will now remain permanently. In the scheme which Mr. Shields and I drew up for making the colony a success, certain recommendations were made, among which were—

- (a) That timber should be allowed to the Sonthals free for fuel and house building purposes.
- (b) That no outstills should be allowed within five miles of the colony.
- (c) That Sonthals should be employed as chaukidars in the colony, and that the regular police were to have no jurisdiction.
- (d) That no revenue should be charged for the land for the first three years.
- (e) That each family should be granted an advance of Rs. 50, to be repaid with interest at 3 per cent within five years.

With regard to this scheme the Government of Bengal wrote in letter No. 2691-1053L.R., dated 30th July 1890, as follows:

The Lieutenant-Governor approves the proposal, and is prepared to grant lands on terms more favourable than those mentioned in paragraph 5 of the scheme drawn up by Mr. Sunder, the privilege rates being extended to 20 years, instead of 5 years, as therein suggested. His Honour would also not object to grant the emigrants free passes by rail from Sahibganj to Mogulhat, but he is absolutely opposed to Government advances for food, ploughs, or building, as wrong in principle and as starting a colony on terms of indebtedness to Government. The Lieutenant-Governor quite sympathises with the idea of making the colony self-contained, but cannot undertake to exclude the ordinary police or revenue jurisdiction from the settlement till it is definitely known what substitutes are to be provided, and, even then, under no circumstances could such an undertaking be more than a very temporary one, to allow of the colony taking root in its own way.

After this a Conference was held at Alipur on March 1st, 1891, and the Rev. A. J. Shields as also Mr. Heawood, a gentleman of means, who had advanced money from his own pocket for the support of the Sonthals and who managed the colony during the first year, made the following proposals:

1st. Terms of rent to be as follows:

1st broken year ..	Nil
1st full " ..	Nil
2nd full " ..	Nil
3rd and 4th years ..	Three annas an acre.
5th and 6th " ..	Six ditto.
7th to 20th " ..	Eight ditto.

2nd. Each manji or headman to measure and report the amount of land taken up after three years.

3rd. *Pottas*.—The number of tenants to be allowed under each manji to be specified in the potta.

4th. That Government be asked to allot free jotes of 10 acres each for the village school-master, who shall keep up the village accounts and perform other similar duties for the community, such as land measuring, &c. That a free grant of land for church, school, and burial ground be given, and 10 acres for a Manager's compound.

5th. No shop for the sale of intoxicating drugs or liquors to be allowed within the area of the Sonthal Reserve, nor within a distance of 2 miles outside.

6th. The Deputy Commissioner to give all work available on the settlement to Sonthals.

7th. That Government should allow headmen to take up, if necessary, larger areas than 100 acres mentioned in the original draft scheme; and that the rule on page 2, clause 6 of the rules for the grant of ordinary leases of arable lands in the Western Duars be adopted.

These recommendations were sanctioned by Government in Revenue Department letter No. 36T.-R., dated May 26th, 1891.

By Government notification No. 4300L.R., dated 27th August 1894, a block of land measuring, more or less, 20 square miles, has been reserved for the Sonthals. Much of this land has been brought under the plough, and good crops of paddy and Indian-corn have been obtained by the people, who seem to be very happy and contented. I have visited them, and believe that the colony is a success, and that all the land that has been reserved will be brought under cultivation within the next few years, provided the officer in charge of Buxa subdivision looks after people and helps them whenever possible without making them in any respect dependent on him.

During the cold weather of each year a large number of men, women, and children come from Chota Nagpur and other districts for work in tea gardens. People also come from Chota Nagpur and other districts for work in tea gardens. People also come from Bihar districts for road and earthwork, which they regularly obtain from the District Board. Jotedars also employ these men for making fish ponds, ayles, and homestead roads, for which they are paid by the job. The monthly earnings of each man amount to between Rs. 8 or Rs. 10, which they take away only to pay their mahajans and clear themselves of debt which they had contracted in their own districts.

The Duars people do not leave the district at any time for work. They are too well off by cultivation of their lands.

In the next settlement conducted between 1906 and 1916 the special terms were cancelled rather hastily on the assumption that there were no more Santals in that colony. The Deputy Commissioner, F.W. Strong, protested that this was not so.

The population of Hindus, Sikhs, Jains, Buddhists, Zoroastrians, Muslims, Christians, Jews and other religions and the percentages each religion bears to the total population of the district, is given in the statement below:

Religions in Jalpaiguri, 1951

	Total	Percentage to population
Hindus	769,878	84.18
Sikhs	1,073	0.12
Jains	377	0.04
Buddhists	6,540	0.71
Zoroastrians . . . . .	..	..
Muslims	89,099	9.74
Christians	25,481	2.79
Jews . . . . .	..	..
Other religions—		
Tribal	22,001	2.41
Non-Tribal . . . . .	..	..
Religions not stated	89	0.01

Hindus form the large majority of the people. The following statement gives an account of those Scheduled Castes and Scheduled Tribes, whose strength exceeds 2,000 each in the district:

Scheduled Castes:	Males	Females
Dosadh	1,278	999
Khairia	1,200	1,421
Lohar	8,040	8,131
Mahli	4,872	5,466
Muchi	1,697	674
Namosudra	2,732	1,984
Rabha	1,582	1,287
Rajbanshi	93,465	79,245
Turi	1,613	997
Scheduled Tribes:		
Mech	5,833	4,674
Munda	20,806	18,684
Oraon	62,299	53,477
Santal	12,863	9,065

An account of some of the castes and tribes of the district will be found elsewhere in this volume.

Much interesting account of the races and tribes to be found in Jalpaiguri district will be

found from Francis Buchanan Hamilton's description published elsewhere in this volume, and from D.H.E. Sunder's account also published as an appendix. For some additional information the reader's attention is invited to E.G. Glazier's report on the district of Dinajpur, published in 1873. This report was republished in Bengal District Records in Rangpur (1770-1779) by W. K. Firminger. In 1902 Monomohan Roy, an officer of the Bengal Civil Service, published "*Some notes on the Rajpamci Castes*". In the same year Harendranarayan Chowdhuri of Cooch Behar published an account of the Chaklajat Estates and their settlement of rent, which also contains some interesting notes. But there is very little elsewhere that is not already contained in Buchanan Hamilton and Sunder. In 1919, J.A. Milligan, writing his Settlement Report, observed that Meches or Garos have left Satali. This was not correct even in 1917, as even in 1953 I found in the Satali group of villages in Falakata and Kalchini police stations large settlements of Meches, and farther east near Raja Bhatkhiawa and Kumargram a few settlements of Garos.

PUBLIC HEALTH

The district, situated to the south of the Darjeeling Terai and the Bhutan Hills, was quite notorious for its unhealthiness. In the nineties of the last century D.H.E. Sunder, who moved in the district for nearly eight years did not have any very condemning words for the salubrity of the Duars. The following passage from page 8 of his report will bear quotation:

When questioned respecting the salubrity of the Duars, I have often been asked whether many aged persons are seen among the inhabitants. Few certainly attain a great age in the country; but how few do, even in England, without more than once suffering from an illness that would have proved fatal without medical aid, which is not obtainable in the Duars?

The heat from June to September is sufficiently oppressive to occasion considerable lassitude, and the exuberant fertility of the soil engenders indolence, little nourishment sufficing for the natives, and a sufficiency being procurable without much exertion. Cholera occasionally occurs in the cold weather and in the months of April and May; spleen and goitre are common diseases, and many people die annually from fever and bowel-complaints. Still the average tenure of life may be safely put down at 30 years. Many men, however, exceed the allotted span of life of 70 years, and I have a friend among the Meches and two among the Rajbansis who have passed the age of 90 years, and whose sons, grandsons, and great-grandsons are alive. Among Rajbansis, the late Rai Upendro Nath Duardar lived and was able to go about and attend to work, as also to ride on an elephant, at the age of 75 years; the late Purna Ram Kait, who was tahsildar of Bhalka, worked up to the day of his death at 80 years, and there are other men of the same caste personally known to me, who have long passed the age of 60 years.

Europeans who reside in the Duars are often heard to describe the climate as a deadly one. The climate is certainly unhealthy; but much of the sickness that occurs among Europeans is due to their own imprudence and to careless living. To those who will not

live moderately, the climate must always be injurious. Let a man eat and drink moderately and be properly housed; let him be sufficiently warmly clothed, and also let him take a sufficient amount of exercise every day. If he does these things and takes care of himself, there is no reason why the climate should affect him more than the natives of the Duars.

Public health was almost at its lowest ebb between 1900 and 1920, and the following touching passage is quoted from p. 157 of J.A. Milligan's Report on the Settlement of Jalpaiguri district, to illustrate the condition of the Duars and the dread with which life in the district was constantly held.

Sanitation in Jalpaiguri district as a whole is as big a problem as in the rest of Bengal, while in the Western Duars it is even more so. Much more will be done in this line of progress when the co-operation of schoolmasters is fully secured and the simple and basic principles of hygiene are inculcated along with the so called three R's. A start has, it is true, been made in this direction, but it will be long ere the seed bears fruit. At every turn reform is confronted by prejudice. Adult prejudice is a stiff-necked foe, but the mind of youth is plastic.

The more important diseases which call for consideration in this district are malarial and other fevers, cholera, smallpox and enteric in human beings; and rabies and rinderpest in animals. I do not propose to exhibit my ignorance of the pathology and therapeutics of the diseases of which I write so glibly, but to state the facts in as brief a manner as possible.

Till about ten years ago the intensely malarious climate of the Western Duars was accepted with resignation by the inhabitants, European and Indian alike, as an inevitable part of their environment. The death-rate must have been enormous, and few, if any, escaped that weakening of the constitution and the impaired vitality which prolonged saturation with malaria inevitably produces. Every officer, who has been in charge of survey and similar operations in the Duars, has testified to the prejudicial effect of malaria on the progress of his work. O'Donel, Beckett, Hodgson, Sunder have all the same tale to tell. In 1888 Colonel Boileau wrote as follows: "The known unhealthiness of the country cannot be ignored. Experience of five years of tea land survey establishment has shown that a large proportion of the men employed fall ill during both the early and the latter part of the field season and about two amins in ten die every year or leave the country unfit for any more hard work." I select this statement from the mass of evidence that has been left by former local officers because it so exactly expresses the experience of this settlement party. A very noteworthy feature of the local malaria is that it is most deadly to new-comers even when they come from places with a high malarial endemicity, and as my staff of amins each year contained very few men who had experienced a previous season in the district, each cold weather witnessed a breakdown of the survey programme owing to enormous casualties amongst men of all ranks, but especially amins. As this initial epidemic wore off, the hope which springs eternal in the breast of a Settlement Officer made me optimistic about retrieving the lost time. But as Beckett wrote in 1872 "After the month of March the Duars are very unhealthy, but we had to stay out much longer than that." So did we, much longer; in fact we had to be out the whole year round after the first year or two, as otherwise no programme would ever have been completed. It is difficult to give a realistic impression of the wretched conditions under which our work annually dragged to its weary close. Officers and Kanungos and mohurrirs and amins, an average of 30 per cent, down

with fever and all the others suffering from that depression of spirits and loss of energy which are the aftermath of a course of malarial attacks, lived in tents or leaky *bashas* throughout the steamy days of sunshine and the weeks of torrential driving rain. It was a wretched life and the wonder to me was that work ever was finished at all. Our death-rate was very high and the numbers who went away with broken health were enormous. It is significant that in all the other settlements to which they were subsequently distributed many Jalpaiguri Kanungos were at first stigmatised as very inferior. But after the change of climate had allowed them to recoup their health that stigma was in most cases expunged. Again and again inspecting officers commented most unfavourably on the *personnel* of my staff, but it was the environment, which had reduced them to what they were, that ought to have been the subject of unfavourable comment. What say Christophers and Bentley in their report on "Malaria in the Duars"? "A marked feature of the chronic malaria subject is a characteristic apathy, and it is easy to understand that when, as is very frequently the case, the percentage of haemoglobin falls to below 25 per cent of the normal, the subject becomes apathetic, unwilling to work, and there commences the vicious cycle that often ends in death." I think I may say with truth that we were all chronic malaria subjects in the years 1907 to 1914. It may be out of place to introduce my own experiences, but it will give point to my contention. I took quinine regularly and in this way was better guarded against malaria than the most of my staff, many of whom were prejudiced against quinine and would not take it. Yet in 1907 when I went on short leave I was down with fever from the time I left Jalpaiguri till I had been over a month at home. Again in 1910 I went on short leave and in my 12 weeks at home I had six attacks of malaria which confined me to bed. I say nothing of the recurring attacks which I suffered from during the working seasons, because I have no intention of harrowing anybody's feelings by this allusion to my own experience. I merely quote it to enable the reader to form some idea of what my staff must have suffered, inadequately housed, often inadequately fed and in the majority of cases denying themselves the protection of quinine.

It must not be supposed that it is only the Duars where malaria is rampant. In the very first year the staff employed in Baikunthapur were almost as badly laid out as later on they were in Palakata and Alipur; while in block D—Boda and Patgram—coming straight from the Duars they suffered exceedingly.

One of my first experiences on arriving in Jalpaiguri was to witness a Planter's funeral, and this experience was repeated at short intervals during the fall of that dreadful year 1906. In that year matters reached a climax and led by Mr. Collings Wallich, an indefatigable enthusiast, the question of taking action was vigorously tackled. Government were sympathetic and ready to help in every way. The result was that in the following year Captain Christophers and Dr. Bentley came to the Duars to investigate Malaria and Blackwater fever and pursued these investigations until 1909. It is quite immaterial that all the conclusions arrived at by these investigators were not accepted by Government. The important point was that from 1906 onwards the whole European community was thoroughly aroused to the importance of the question and gradually the necessity of spending money on sanitation and prophylaxis was understood and readily acquiesced in. The result has been a marvellous improvement in the health of the whole tea garden population, and a beginning in the direction of improved sanitation throughout the district. That the good work might not suffer from the inevitable reaction that follows the escape from a great danger, the Duars Labour Act was passed in 1912 whereby sanitation and the collection of vital statistics on tea gardens are subject

to inspection by Government officers. But there is room for much improvement in the rest of the district.

At the instance of the planters an enquiry into the occurrence of malaria and especially of black-water fever in the Western Duars was made by C.A. Bentley and Captain Christophers about the years 1907-10. Although circumstances have greatly changed in the last forty years, the following account reprinted from the investigations of Dr. C.A. Bentley, will provide much material for the history of public health of the district.

Since the British occupation of the Duars this tract has shared with the Darjeeling Tarai the reputation of being one of the most intensely malarious regions in India; but it was not until the visit of the Royal Society's Malaria Commission in 1901 that anything really definite was known as to the actual incidence of malarial disease in this part of the country. The investigations conducted on this occasion by Drs. Stephens and Christophers and Captain S. P. James, I. M. S., showed that the malarial endemicity of the Duars was extraordinarily high and that black-water fever was as common in that locality as in any region of Africa visited by the Commission. Until quite recently no further investigation into the conditions relating to malaria in this area was undertaken, but in 1907 the Duars Planters Association, alarmed by the apparently increasing unhealthiness of the district, made an urgent appeal to the Indian Government, with the result that an enquiry was instituted into the occurrence of malaria and black-water fever, and the general condition of sanitation in the Duars.

It is impossible here to refer, except in a very general manner, to the conclusions arrived at as a result of the present enquiry, of which only a partial report has as yet been published, and before doing so it is necessary to indicate briefly the state of our present knowledge regarding malaria. Since Laveran's discovery of the malarial parasite and Ross' brilliant demonstration of the transmission of malaria by mosquitoes, it has been recognised that malarial disease is invariably associated with the presence of minute animal parasites in the blood of infected persons, and that the spread of malaria in any locality is dependent upon (1) the presence of infected persons; (2) the presence of other susceptible persons; and (3) the presence of susceptible mosquitoes, i.e., of certain species of anopheles, capable of contracting malarial infection from infected persons and of transmitting it by their bite to other susceptible people. Three distinct species of the malarial parasite are recognised, quartan, simple tertian, and malignant tertian, and the infection of a human subject by any one of these parasites is followed by the occurrence of certain well known symptoms. Quartan and simple tertian malaria are characterised by recurring attacks of ague and fever followed by enlargement of the spleen, and in severe cases by great debility, anaemia and dropsy. Malignant tertian malaria is frequently the cause of fever of a bilious and remittant type and may produce very fatal attacks. Mild injections by either form of parasite may occasion attacks of so-called "masked malaria", with undefined symptoms of general malaise, headache, biliousness, indigestion, etc., conditions which are almost invariably spoken of as "low fever", "a touch of the sun" or a "go of liver". Malarious infections are exceedingly difficult to eradicate except by systematic quinine treatment extending over many months, and during their course, whenever the subject is exposed to any kind of depressing influence, relapses of febrile or other symptoms are very liable to occur.

In the absence of infected persons and of susceptible anopheles mosquitoes, malaria does not arise and the so-called "jungle fevers", which were at one time

supposed to be contracted in uninhabited swamps or virgin forests, have been found on investigation to be either severe relapses of malaria in infected persons exposed to the hardships of camp life, or to have been primary infections contracted in the neighbourhood of native huts or from native servants. As the incubation period of malaria varies from one to three weeks, it is easy to understand that mistakes may be made by persons ignorant of this fact. Now although much that is known regarding malaria, serves to show its relation to geographical situation, climate, rainfall, etc., it does not explain all the facts which have been observed from time to time. The reason for this is not far to seek, and it is to be hoped that one result of the present enquiry will be the recognition of the overwhelming importance of certain factors influencing the prevalence of malaria, which have hitherto been entirely overlooked. The absolute failure to demonstrate the presence of the malaria parasite except within the bodies of infected human beings and of susceptible mosquitoes found in immediate association with them; and the experimental proof that these mosquitoes can be infected from man and that man again may be infected by the bite of such germ-laden mosquitoes, appears to show that the existence of this parasite is confined to the human and the insect host; every year the evidence in support of this hypothesis becomes more and more convincing.

Lines of Investigation—This being so, in the investigation of the epidemiology of malarial disease two lines of enquiry naturally suggest themselves:—on the one hand the most minute and careful study of the human host, together with every circumstance relating to his racial, social or economic condition, his movements, his aggregation into communities industrial and otherwise, and everything which may influence in the smallest degree individual or collective susceptibility to malaria; on the other hand there is the study of the insect host, the anopheles mosquito, its natural history and everything about it which may throw light upon its relation to malaria. Though much attention has been paid since Ross' discovery to the study of mosquitoes in general and the anopheline in particular, with the result that an enormous amount of information has been collected about this side of the question, the significance of the human factor in the problem of malarial dissemination has never been recognised. The importance of this neglected factor may be demonstrated by a careful review of many facts relating to the character, movements and general condition of populations in malarious districts, while its recognition will prove the means of elucidating many obscure points in the epidemiology of malaria.

Malaria in the Duars—Among Europeans, of whom over 200 reside in the Duars, the incidence of malaria is very high. Visitors to the district, no matter what the season, usually suffer from the disease from one to three weeks after their arrival. Residents of only a year or so and those recently returned from furlough are prone to repeated attacks of fever, while those of longer standing are extraordinarily subject to liver, biliousness and dyspepsia, the frequent signs of masked malaria. It is not surprising, therefore, that the invaliding and death rates among Europeans in the Duars are abnormally high; the mortality among this community which consists almost entirely of strong adults in their prime, ranging from 20 to over 75 per 1,000, as compared with a death rate of 7 per 1,000 for the whole of the European population of India. The high malarial incidence and the resulting sickness and mortality is not due merely to accident or chance, but is the direct outcome of the extraordinary prevalence of malarial infection among the general native population of the Duars. The European in the tropics invariably contracts malaria from the natives who live in his immediate neighbourhood, and the closer this proximity, the larger their

number and the more prevalent the disease among them, the more certain is he to suffer from the results of constantly repeated infection. Obviously then, in order to get a true insight into the epidemiology of malaria in any region it is necessary to make a most careful study of the disease as it affects the general population. The present investigation, which has been carried on since July 1907, has shown that the commonly held opinion regarding the extreme unhealthiness of the Duars is well founded. So far the enquiry has been confined mainly to the tea-gardens, which find employment for more than 150,000 persons and probably support a much greater total population. Among these people, malaria is present to an extraordinary degree.

Endemic Index of Malaria—It has been known for many years that new-comers to a malarious district are specially liable to contract the infection, while older residents acquire a relative immunity. Koch, investigating malaria in New Guinea, described certain villages in which, while the young children showed almost universal infection, the adults appeared to be entirely exempt. These villages were generally far removed from the lines of communication and invariably possessed fixed populations. Other villages, so situated in relation to main roads, markets, navigable streams, or harbours that everything tended to encourage movement in the population and ensured the frequent influx of new residents, while possessing a similar amount of infection among the young children, also showed an extraordinary prevalence of malaria among the adult population. This prevalence was due to the floating character of the population and to the constant introduction into the endemic area of large numbers of non-immunes. From these observations Koch inferred that the prevalence of malaria in any locality bore a direct relation to the population of new arrivals or non-immunes among the population. Stephens and Christophers working in Africa confirmed and extended Koch's observations and adopted as the measure of the comparative malariousness of a place the percentage of infected children, these being *ipso facto* "new-comers." The figure arrived at they termed the endemic index of malaria. The examination of the blood of young children in the Duars has shown the endemic index to be very high, rarely falling below 50, in many instances approaching 100, and in general averaging about 80. This fact, besides showing the widespread prevalence of malaria, also indicates the extent to which all new-comers to the Duars must suffer. Were the population a fixed one, we should probably find that malaria was chiefly confined to the young, causing perhaps a heavy child mortality and checking the natural increase of the population, but affecting the adults slightly. We have evidences of such conditions in the case of the Meches and other natives born in this part of the country.

The tea garden population—But unfortunately the tea-garden population in the Duars is almost entirely an immigrant one, recruited every year from Chota Nagpur, the Santhal Parganas and the Darjeeling hills, by thousands of new coolies, the majority of whom show little evidence of malaria on their arrival. This yearly influx of new-comers adds enormously to the non-immune population and acts as fresh and exceedingly inflammable material heaped upon an already glowing fire. There is probably no malarious region in India of like area in which this condition is to be met with on anything approaching the same scale, and it must also be remembered that in the Duars this large influx of non-immunes is not a temporary but a continuous yearly phenomenon, dating back some thirty years and due almost entirely to the extension of the tea industry. It is not an instance of true colonisation such as may be seen elsewhere, but an example of the persistence over a wide area and to an extraordinary degree of an artificial condition of influx in the population, which is, except in the case

of large cities (which are little affected by malaria); usually only temporary. Of the people who pour into the tea-gardens every year, only a small portion become permanently settled on them, the vast population being content to migrate from place to place every year or so backwards and forwards through the district; some go out into the villages and a considerable number eventually return to their own country. In the absence then of large settled garden populations, we have in the tea-garden area of the Duars an instance of a wide tract of country dotted over with innumerable labour camps. It is difficult to emphasize sufficiently the full significance of this phenomenon and its tremendous importance with regard to the problem of malaria in Duars, for in the absence of accurate data its effects cannot be easily estimated. The holocausts among the immigrant employees at Panama which caused the failure of the French canal scheme, serve to indicate the results which always follow the careless important and aggregation of large non-immune populations within the malarious zone. To precisely similar causes, *viz.*, the recruitment and aggregation of numerous coolie labourers without due precautions upon the sugar plantations of Mauritius, may be traced the frightful outbreak of malaria which swept that once salubrious island from end to end some forty years ago. But though the introduction of large numbers of non-immunes into a malarious district and their collection into labour camps is always risky, it is not necessarily the cause of widespread and intense malaria, provided everything is done to guard against the danger, as the recent experience of the Americans at Panama conclusively demonstrates. The immigration of non-immunes is therefore not the sole factor of importance which may exalt the malarial endemicity of a district; it is rather this in conjunction with other circumstances almost invariably found in association with it and always to be met with in new countries, where large commercial or industrial undertakings involving the bringing together and employing of numerous labourers, are organised and conducted without due recognition of the most elementary rules of hygiene and sanitation.

Malaria and soil disturbance—In the tropics wherever huge engineering works or the establishment of some important industry have been undertaken, involving extensive soil disturbance, we nearly always encounter the conditions referred to, and herein lies the true explanation of the countless observations showing that opening of the soil will lead to outbreaks of malaria, for, in reading the description of such outbreaks, it will invariably be found that they occurred during the course of railway, road or canal construction or extensive building operations necessitating the employment of considerable numbers of labourers. The explanation, current a generation ago and still held by the uneducated, suggested a hypothetical emanation from the soil as the cause of these outbreaks, but more recently it has been supposed that the multiplication of puddles in the course of excavation led to an enormous increase in the breeding grounds of the anopheles mosquito and hence to the spread of malaria in epidemic form. That such a condition may be an accessory cause is probable, but considered alone it forms a hopelessly inadequate conception. For what may be expected in a malarious country when large and mixed populations of workers are massed together under the temporary conditions inseparable from camp life? The special liability to disease in epidemic form incurred by armies in the field and concourses of pilgrims has long been recognised, and precisely similar dangers are encountered wherever the industrial aggregation of labour under primitive conditions is met with. And so throughout the Duars, as a direct result of its numerous labour camps, with their shifting population of mixed character, we find a prevalence and exalted intensity of malarial infection only met with in epidemic manifestations of the disease. It is the existence

of the conditions indicated and their inevitable consequences which serve to mark off the Duars as different from other tracts apparently but little dissimilar in physical outline, rainfall, climate and geographical situation.

Black-water fever—Among disease conditions resulting from the universal intensity of malaria throughout the Duars, none is more striking than black-water fever, which is exceedingly common both among Europeans and educated natives. It was the frequent occurrence of this disease, causing a heavy mortality and much invaliding among the planters, which led to the appeal for an investigation of which the present enquiry is the result. Black-water fever appears to be mainly confined to Europeans, Bengali Babus and tradesmen, Chinamen, dhobies, and servants drawn from the town-dwelling classes of Bengal. New-comers are never attacked and it is rare for the disease to appear in residents of less than six months' standing. The second and third years of residence in the Duars is the most dangerous period, the majority of cases occurring then. After four or five years of unbroken residence in one place, the liability to the disease is much reduced, but a change of situation or long leave to a healthy climate annuls this acquired immunity, while one attack of the disease exercises a markedly predisposing effect so that recurrences are not uncommon. The actual mortality is about 10 per cent of all cases, but is generally greater among Europeans than among natives. The onset of the disease is frequently mistaken for an ordinary malarial attack which it at first resembles. There is usually a sharp chill like severe ague, but this is quickly followed by the passage of dark brown, blackish or bloody urine and generally by repeated and persistent bilious vomiting; the temperature rises rapidly, pain at the pit of the stomach may be complained of and jaundice soon becomes evident. Such an attack may last from twelve hours to four or five days and relapses are not uncommon. In favourable cases the first sign of improvement is the clearing of the urine, the jaundice and the fever usually persisting longer than the hæmoglobinuria. In fatal cases the patient may die from heart failure while still passing large amounts of dark urine, but more frequently the urine becomes more and more scanty in amount until suppression supervenes and causes death. The diagnosis of the disease is easy in typical cases, but many mild attacks escape recognition especially among natives, and in some parts of India even fatal cases are still mistaken for malignant jaundice or are termed "fever and jaundice", the name by which the disease was known in the Duars before its real nature was recognised. The only certain method of diagnosis in doubtful cases is the spectroscopic examination of the urine supplemented by the use of the microscope. The essential nature of the disease is a blood destruction so enormous that the red corpuscles are reduced to one-half or even one-tenth of the normal within two or three days. This destruction is due to the sudden solution of the red blood corpuscles in the blood plasma, their colouring matter, hæmoglobin, being excreted from the kidneys, thus causing the peculiar colour of the urine which has given to the disease its name of black-water fever. Malarial parasites are generally present in the blood at the time of onset, but rapidly disappear in the course of the disease although other evidences of malaria are as a rule present or may be found post mortem.

Treatment—At present the most successful treatment is the free use of bland diluents, such as barley water or milk and soda. Drugs are of little service and meat extracts are distinctly harmful in the acute stage, but in cases of exceptional weakness they may be necessary after the hæmoglobinuria has ceased. It seems probable that further experiments may lead to the discovery of a specific serum or anti-toxin

treatment. Extract of the leaf of *Vitex Peduncularis* is supposed to be a cure for blackwater fever.

Nature of black-water fever—The present investigation has shown that black-water fever is the result of constant and repeated inoculations of malaria, a danger to which all residents in the Duars are daily exposed. Owing to the cumulative effects of constant and repeated infection, the constituents of a peculiar and complex blood poison are produced within the body and a condition of unstable equilibrium ensues. When this state of things has been induced, the action of a chill, over-fatigue, a superadded attack of malaria, or even a dose of quinine may cause the sudden combination of the elements, which together form the blood poison referred to, and the immediate result is the dissolution of the red blood corpuscles with the occurrence of the symptoms characteristic of black-water fever; but, though the condition has a malarial origin, it must not be confused with a severe malarial attack, from which it is as distinct as an attack of delirium tremens is distinct from mere intoxication.

Prophylaxis—From what has been said, it is evident that the methods to be adopted for the prevention of malaria and black-water fever are essentially the same, and among prophylactic measures education stands pre-eminent. The interest, aroused through the Duars by the present enquiry, has led to a remarkable dissemination of knowledge regarding malaria among the European residents and this has resulted in the very general adoption of precautions against the disease. Since 1907 some 75 per cent of the Europeans in the Duars have made use of systematic quinine prophylaxis in the form of a 5 grain quinine tablet taken daily. In addition far greater care has been exercised in the use of mosquito nets and a large proportion of the bungalows have been furnished with galvanised wire mosquito screens to the doors and windows or verandahs. Coincidentally with this the general health of the European community has shown a remarkable improvement; there have been far fewer cases of fever, less serious illness, and only two cases of black-water fever. No case of black-water fever occurred amongst those who adopted the precautions described. As regards prophylaxis among the general population, it is premature in the absence of any organised campaign to do more than refer to the fact that, in a number of instances, planters have begun to distribute quinine in palatable form freely among the coolies. In some cases the consumption of this valuable remedy, previously used in hopelessly inadequate amounts, has increased ten-fold. This is undoubtedly a move in the right direction, but, at the present time, there are no figures available to show the actual results attained, and it is obvious that, without proper organisation both for the carrying out of an anti-malarial campaign and for the collection of exact data, any estimate of the benefit which may be derived from the adoption in the Duars of this, or any other method of malaria prevention must be largely a matter of guess work.

All the other important diseases, as cases of cholera occur throughout the year, and it is probable that many streams and wells contain the germ of the disease, though it is only when the winter rains have been short and streams and wells are in consequence much reduced or dried up, that cholera becomes epidemic. The months of July to October are favourable to dysentery and typhoid, both being water-borne diseases. Spleen and goitre are common diseases and the proportion of persons suffering from insanity and deaf-muteness is supposed to be higher than in other parts of West Bengal.

An account of the medical institutions of the district will be found in the statistical section of this volume. The Jackson Medical School in Jalpaiguri has recently been converted into a Pharmacists' School for turning out qualified compounders. In the interior of the district, apart from the Government hospitals and dispensaries, the teagardens, both European and Indian, have between them as many as 153 dispensaries. There are

two particularly good tea garden hospitals in the Western Duars, one attached to Kalabari Tea Estate about 4½ miles west of Banarhat, and another at Mathura Tea Estate about 7 miles from Silbarighat.

The following Indian owned tea gardens have hospitals attached to their dispensaries, the number of beds in each being shown against the name :

Statement showing medical facilities available in Tea Gardens affiliated to the Indian Tea Planters' Association in the District as on 31st March, 1953

Name of Garden		No of hospital beds	Medical Officers	Mid-wives or Dais	Nursing Attendants	Compounders	Anti-Malaria Assistants
Atiabari	Tea Estate	12	4	2	1	1	..
Nimtijhora	" "	12	2	2	1	1	..
Mathura	" "	35	4	1	1	2	12
Dhowlajhora	" "	5	1	1	2	1	..
Subhashuni	" "	12	2	1	..	1	..
Madhu	" "	16	1	1	1	1	..
Srinathpur	" "	1	1	..	..	1	..
Chuniajhora	" "	4	1	..	1	..	..
Rahimabad	" "	4	1	..	..	..	..
Chamurchi	" "	8	2	..	..	1	..
Mogulkata	" "	13	1	1	..	1	..
Nedam	" "	6	1	..	..	..	..
Katalguri	" "	8	2	..	..	..	..
Ramjhora	" "	20	2	1	1	..	..
Debpara	" "	6	2	..	..	..	..
Gurjaman	" "	1	1	..	..	..	..
Kalabari Rangati	" "	2	1	..	..	1	..
Gopalpur	" "	29	2	1	1	..	1
Jogesh Chandra	" "	20	2	1	2	1	..
Luxmikanta	" "	8	1	1	..	..	..
Kadambini	" "	25	2	1	2	..	..
Anandapur	" "	4	1	1	..	1	..
Mission Hill	" "	1	1	..	..	..	..
Dheklapara	" "	4	1	1	2	..	..
Ambari	" "	14	1	..	1	1	..
Red Bank	" "	10	1	..	..	3	..
Mujnai	" "	14	2	1	1	1	1
Makrapara	" "	4	1	..	1	1	1
Diana	" "	12	2	1	..	1	..
Totapara	" "	8	1	..	1	1	..
Toonbari	" "	4	1	..	1	..	..
Joypur	" "	10	1	..	1	1	..
Shikarpur	" "	8	2	1	1	1	..
Cooch Behar	" "	4	1	1	..	1	..
Bijohnagar	" "	8	1	..	..	1	..
Sukna	" "	1	1	..	..	1	..
Kamala	" "	4	2	..	..	1	..
Thanjhora	" "	4	1	..	..	..	..
Deomoni & Kistapur	" "	2	1	..	..	..	..
Matidhar	" "	8	1	..	..	1	..
Bijlimoni	" "	..	..	..	..	..	..
Sahabad	" "	2	1	1	..	1	..
Cholbari	" "	10	1	1	..	1	..
Birjhora	" "	8	2	..	1	1	..
Banglabari	" "	1	1	..	..	..	..
Daloabari	" "	1	1	..	..	..	..
Kokrajhar	" "	2	1	..	..	1	..
Monmohinipur	" "	6	2	1	2	..	..
Hirajuli	" "	8	1	..	..	1	..
Narayanpur	" "	10	1	..	..	..	..
Nurpur & Walipur	" "	2	1	..	..	1	..
Dherai	" "	2	1	..	..	1	..
Doomni	" "	11	1	..	..	1	..
Halmari	" "	10	1	1	1	..	..

The Kalabari Hospital has been opened in 1953 with more than 30 beds.

• The constituents of the Indian Tea Association offer the following medical facilities which are published by courtesy of the Association:

Statement showing the actual Medical Facilities available in Tea Gardens affiliated to the Indian Tea Association in Dooars District as of 31st March, 1953

Name of the Garden	Hospital Beds	Medical Officers	Midwives & Dais	Nursing Attendants	Compounders	Anti-Malaria Assistants	Public or Mission Hospital providing additional facilities when required
Matelli . . .	..	1	2	3	1	..	Jalpaiguri General Hospital
Moortoo . . .	12	..	..	..	1	..	do
Central Dooars . . .	47	2	2	5	1	1	Bhatpara Central Hospital
Chuapara . . .	47	2	5	5	1	1	Jaipalguri Hospital and Cooch Behar Hospital
Bhatpara . . .	36	3	3	6	1	1	do
Mochpara . . .	46	2	2	3	1	1	Bhatpara Central Hospital
Jainti . . .	10	2	2	1	1	1	Jalpaiguri Hospital and Cooch Behar General Hospital
New Glencoe . . .	8	1	1	1	1	2	Jalpaiguri State-Managed Sadar Hospital
Washabari . . .	25	1	2	2	1	1	Jalpaiguri General Hospital
Baradighi . . .	16	1	2	3	2	1	do
Rydak & Kartick . . .	23	3	10	6	..	2	Cooch Behar Hospital
Bhatkawa . . .	34	2	4	..	1	1	Bhatpore Central Hospital
Rajabhat . . .	28	1	3	3	1	1	do
Ranicherra . . .	23	1	1	2	2	1	Jalpaiguri General Hospital
Malangi, Beech, Bharnobari & Satali . . .	52	8	8	..	3	3	Jalpaiguri Hospital & Cooch Behar Hospital
Huldibari . . .	26	2	1	1	1	1	Jalpaiguri Jackson Medical School Hospital
Binnaguri . . .	20	2	3	..	..	..	Jalpaiguri General Hospital
Dam Dima . . .	10	1	1	..	1	1	Jalpaiguri General Hospital & Cooch Behar J. N. Hospital
Nangdala . . .	34	..	..	..	..	..	Jalpaiguri State Hospital & Cooch Behar General Hospital
Moraghat . . .	8	1	1	..	1	..	Jalpaiguri Sadar Hospital
Banarhat . . .	25	2	1	3	1	..	Jalpaiguri General Hospital
Karballa . . .	10	2	1	3	..	..	do
Choonabhuti . . .	10	1	..	..	1	..	do
New Dooars . . .	6	2	..	..	..	..	..
Sarugaon . . .	8	1	..	1	1	..	..
Engo . . .	..	1	..	..	..	..	Jalpaiguri Provincialised Hospital
Jaybirpara . . .	12	2	1	1	..	..	Jalpaiguri General Hospital
Gairkhata . . .	12	2	1	2	..	..	do
Telepara . . .	25	2	1	..	1	..	Jalpaiguri State-Managed Sadar Hospital
Bundapani . . .	24	2	1	1	..	..	do
Bamandanga . . .	14	1	2	2	..	1	..
Tondoo . . .	7	1	2	5	..	1	..

Statement showing the actual Medical Facilities available in Tea Gardens affiliated to the Indian Tea Association in Dooars District as of 31st March, 1953—contd.

Name of the Garden	Hospital Beds	Medical Officers	Midwives or Dais	Nursing Attendants	Compounders	Public or Mission Hospitals providing additional facilities when required	
Ghatia	24	1	2	3	1	Nagrakata Central Hospital	
Nagrakata	4	1	3	..	1	do	
Indong	6	1	1	..	..	Jalpaiguri State-Managed Sadar Hospital	
Bhogotpore	8	2	6	7	..	Bhogotpore Central Hospital	
Hilla						Jalpaiguri State-Managed Sadar Hospital and Bhogotpore Central Hospital	
Grassmore	..	1	2	3	1	..	Bhogotpore Central Hospital
Ku#ti	10	1	2	..	1	..	Jalpaiguri Central Hospital
Tasati	20	2	1	1	1	..	Jalpaiguri General Hospital & Kurseong Sanatorium
Goodhope	8	1	..	2	1	..	do
Hahaipatha	17	1	1	2	1	1	Jalpaiguri Provincial General Hospital
Kak#hini	30	2	2	4	2	1	do
Raimatang	37	2	4	2	1	1	do
Chinchula	25	1	2	2	1	1	Jalpaiguri General Hospital and Cooch Behar General Hospital
Dima	24	2	2	2	1	1	do
Gangutia	22	2	2	4	1	1	..
Oodlabari	10	1	..	2	..	..	Jalpaiguri General Hospital
Ethelbari	10	2	6	1	..	1	Jalpaiguri State-Managed Sadar Hospital
Sylee	28	3	1	4	1	1	Jalpaiguri General Hospital & Bhogotpore Central Hospital
Nya Sylee	30	1	1	..	1	..	Bhogotpore Central Hospital
Looksan	22	1	1	..	1	..	Jalpaiguri Provincial General Hospital
Kumai	24	2	2	1	1	1	Jalpaiguri Sadar Hospital & Bhogotpore Central Hospital
Chongmari	32	2	4	2	1	1	Jalpaiguri General Hospital
Dalgaon	43	2	2	4	..	1	Jalpaiguri General Hospital & Cooch Behar General Hospital
Toorsa	12	1	1	2	1	1	Jalpaiguri General Hospital, Cooch Behar General Hospital & Bhogotpore Central Hospital
Dalsingpara	15						
Dalmore	38	2	2	4	1		Jalpaiguri State-Managed Hospital
Dam Dim	14	2	1	..	1		do
Kumlai	20	1	1	2	1		
Rungamattee	16	2	3	1	1		
Nakhati	6	1	1	1	1		
Soongachi	20	1	2	..	1		

Statement showing the actual Medical Facilities available in Tea Gardens affiliated to the Indian Tea Association in Dooars District as of 31st March, 1953—contd.

	Hospital No.	Mt Of	(dwi) baia	Nu At nts	Compounders	Anti-Malaria Assistants	Public or Mission Hospitals providing additional facilities when required
Nowera Nuddy	28	1					Jalpaiguri Provincial General Hospital
Leesh River	8	2					Jalpaiguri General Hospital
Meenglass	16	1					Jalpaiguri Sadar Hospital
Dalingkote	24	1	1				do
Chalouni	..	1	1				Jalpaiguri General Hospital
Hope	13	1	6				Bhogotpore Central Hospital
Giti	8	1	2				Jalpaiguri Sadar Hospital & Bhogotpore Central Hospital
Gandrapara	8	1	2				Jalpaiguri General Hospital
Lakhipara	10	2	1				do
Newlands	8	1	1				Jalpaiguri Sadar Hospital & Cooch Behar J. N. Hospital
Kumargram	19	1	1	1	1	1	} .. Jalpaiguri General Hospital
Sankos	12	1	2	3	1		
Lankapara	12	3	1	..	1	1	
Garganda	4	2	..	..	..	..	Jalpaiguri General Hospital
Aibheel	..	1	1	1	..	..	do
Sam Sing	20	2	3	2	..	..	Jalpaiguri General Hospital
Yong Tong	..	1	1	2	..	..	Jalpaiguri Provincial General Hospital
Chulsa	8	1	1	3	..	..	Jalpaiguri General Hospital
Sathkyah	12	1	2	3	1	..	do
Zurrantee	16	1	1	..	1	..	do
Baintgoorie	16	2	1	..	..	..	..
Bagracote	5	2	2	3	1	1	Jalpaiguri State-Managed Sadar Hospital
Danguajher	20	1	1	2	1	1	Jalpaiguri State-Managed Hospital
Ellenbarrie	5	1	1	1	..	1	..
Manaharrie	16	1	1	2	1	..	Jalpaiguri General Hospital
Nagisuree	9	2	1	3	..	..	Jalpaiguri State-Managed Sadar Hospital
Kilcott	..	1	..	1	..	..	Jalpaiguri General Hospital
Carron	4	1	1	..	..	..	Jalpaiguri Sadar Hospital and Bhogotpore Central Hospital
Birpara	..	2	3	7	..	..	Jalpaiguri Provincial General Hospital
Hantapara	24	2	1	5	..	..	Jalpaiguri General Hospital and Cooch Behar General Hospital
Dumchipara	25	1	1	1	1	..	Jalpaiguri Provincial General Hospital
Pashkhowa	2	1	..	..	..	..	..
Puthrajhora	12	2	..	3	..	1	Jalpaiguri State-Managed Hospital
Fagu	8	2	1	..	..	..	do

Other Statistics of the European owned tea gardens are not readily available. The Civil Surgeon of Jalpaiguri is of the opinion that on the whole medical, hospital and dispensary facilities are much better in Indian owned tea gardens than the European owned ones. It is a matter of satisfaction for the public health of the district that most Indian tea garden hospitals and dispensaries not only look after their own tea garden population, but also freely treat patients from outside.

The different heads of medical amenities provided by tea gardens to their labour population may be grouped under medical establishments, including hospital institutions and attendance at dispensary, sick lazarette and maternity benefits. In this connection, the publications of the Indian Tea Association and the Indian 'Tea Planters' Association, relating to vital statistics and other medical statistics, kept up to date, are of very great value and interest.

In almost all the gardens at Dooars there is some arrangement of medical aid to be given to the workers free of charge. Besides, there is also provision of a group medical officer who gives expert medical advice to the doctors of the member-gardens within the group in case of emergency. Very serious cases are usually treated at the Jalpaiguri Hospital where regular contributions are made for the purpose. The details of the conditions of health and the medical facilities made available to the workers in the tea estates at present have been dealt with elaborately by Dr. Major Lloyd Jones, Deputy Director of Health Services, Government of India, in his report "Standard of Medical Care to Plantation Labour". Though as a matter of fact the existing arrangement is not up to any standard of satisfaction on the whole except in a few gardens where only well-equipped hospitals under the control and supervision of qualified doctors are maintained, it is to be hoped that the lot of the workers will be improved to an appreciable extent if the standard as suggested by Major Jones and accepted in the second session of the Industrial Committee on plantation is given effect to within the stipulated period. The following is a summary of the proposals:

(1) FIRST STAGE (3 years)

Garden hospitals

(i) Ten beds for each thousand of population served, of which two beds should be reserved for mid-wifery cases.

(ii) *Medical staff*.—Not less than one registered medical practitioner for each 2,500 of population served.

(iii) *Other staff*.—Midwives or trained dais, not less than one for each 2,500 of population served.

Nursing attendants (male or female) not less than one for each 2,500 of population served.

Compounders not less than one for each 2,500 of population served.

Anti-malaria assistants (where malaria is prevalent) not less than one for each 2,500 of population served.

(iv) *Accommodation and equipment*.—As suggested in 'Standards of Medical Care for Tea Plantations in India' by Lloyd Jones, M.D.

Small and inaccessible gardens or out-gardens, with a population of 500 or less, so situated as not to be within reasonable distance or reach of a garden hospital, will have a dispensary with five detention beds, under the immediate care of a qualified compounder, but supervised and visited regularly by the nearest garden doctor.

Very small gardens, with a total resident population less than 50 may be exempted.

(2) SECOND STAGE (5 to 7 years)

Group or Central Hospitals, equipped and staffed in such a way as to be capable of dealing with any ordinary medical, surgical or obstetric or gynaecological emergency.

Scale of provision.—Not less than three hospital beds for each 1,000 of population served.

Accommodation and equipment.—As suggested in 'Standards of Medical Care for Tea Plantations in India' by E. Lloyd Jones, M.D.

The proposals detailed above have been, it is understood, generally agreed to by representatives of Employers' Associations as reasonable. Although the report expressly covers only tea plantations, the standards should be applied to all plantations, tea, coffee or rubber.

The only large-scale water-works, supplying filtered water on tap with house connections is Jalpaiguri town.

AGRICULTURE

Before the annexation of the Duars this part of the country was covered by huge stretches of grass and reed jungle interspersed with forest and with very scanty population; now it is the seat of a prosperous industry. Tea employs 99,835 males and 78,174 females or a total of 178,009 persons as self-supporting persons in the district; which means that more than a third of the district's population, is supported by the tea industry and not agriculture. Below the tea gardens, as far south as the Cooch Behar border, lie rich fertile plains growing splendid crops of rice, jute, tobacco and mustard. Towards the east, there is still much waste land.

The alluvial soil with which the greater part of the district is covered is very fertile; west of the Tista a superior variety of jute known as Rajganja, is grown; fine rice and sugarcane are also produced. In the low lands throughout the Western Duars coarse rice and jute grow abundantly and between the Tista and Torsa rivers very fine crops of tobacco are produced.

Irrigation.—Artificial irrigation is not infrequent in the Western Duars where the number of rivers and streams afford great facilities for it. It is used for land on which *aman* rice is grown, but which is not sufficiently low to ensure an adequate supply of water by ordinary means. The cultivators cut small irrigation channels, locally called *jampois*, from any stream

which seems suitable and their proceedings need careful watching as the rivers in the Duars frequently change their courses and it does not require much to divert the whole of the water from a river or stream down an irrigation channel. Cases have occurred in which the digging of irrigation channels has resulted in great damage to the Bengal Duars Railway and to roads. An irrigation channel near Gairkata had to be closed up because it threatened to divert the course of the Angrabasha river and leave the Gairkata tea garden, with its turbine driven machinery, and the Gairkata market without any watersupply. Irrigation is doubtless necessary in parts of the Western Duars, but it is not safe to allow channels to be dug without supervision; the District Embankment Committee, however, looks after all river-training and irrigation schemes.

Extension of cultivation—In the permanently settled *parganas* of the district most of the available land is under cultivation and there is not much room for extension.

Soils—The greater part of the district is covered with alluvium ranging from pure sand to clay. Over most of the district the soil is a sandy loam, but in the basin between the Tista and Jaldhaka rivers it is hard, black, and clayey; excellent bricks and earthenware can be made in this part of the country and the land furnishes good pasture and fine crops of tobacco. In the uplands to the north of the Duars the soil is a ferruginous clay and is particularly well suited to the growth of the tea plant. The Western Duars contains numerous old river-beds which have been deserted by the streams which used to flow along them; near the hills they are strewn with stones and boulders, lower down they contain gravel and, in the plains, sand. These deserted river-beds are unprofitable wastes, of little use to anyone.

Classification of soil—No recent classification of soil has been attempted in the district. Apart from what may be found in Buchanan Hamilton's account, reprinted elsewhere in this volume, Sunder's account of classification of soil in 1895 (also reprinted elsewhere in this volume as an appendix) is neither exhaustive nor representative of the whole of the district. In his report on the district of Rangpur, E. G. Glazier in 1873 attempted a classification of soil in two ways: (a) *Jatwary* or according to the nature of the soil, and (b) *Rakamwary*, or according to the use to which the land is put. Glazier's classification is as follows :

(a) *Jatwary* classification :

1st quality	Awal	Pan baraj
2nd "	Doyam	Palum
3rd "	Seyam	Dokhunda
4th "	Charam	Ekkhunda

(b) *Rakamwary* classification :

Homestead land	Bastu	Laikpatit
	Ujar bastu	Bhanga baraj
	Praja bastu	Utbastu
Garden	Baghat (arcanut)	Tal
Bagan		
Grass	Khar	Koshta
Bamboo	Bans	Bichhan kancha
Sugar-cane	Ikshu	Tunt or nil (indigo)

The following statistics are reproduced from the statistical section of this volume for convenience of reference.

	Acres
Total area not available for cultivation (current fallows, culturable area other than current fallows, and area not available for cultivation)	647,908.15
Area not available for cultivation (uncultivable waste)	419,352.56
Culturable area (cultivable waste and current fallows)	228,555.59
Current fallows	18,365.74
Total area sown	747,287.96
Dofasli	19,711.30
Net area sown	728,686.66
Area under Bhadoi crops	97,000
Area under Aghani or Aman crops	407,500
Area under Rabi or Kharif crops	12,947.24
Others, <i>e.g.</i> , mango, tea, <i>pan</i> , plantain, guava, etc.	207,133.60

There are two main crops of rice; the *aman* or *haimantik* which is reaped in the winter and the *aus* or *bhadoi* which is harvested in August and September. The winter rice is much the more important crop; *bhadoi* rice is usually kept by the cultivators for their own consumption. *Aman* rice is first sown broadcast in nurseries in May and June and from about the middle of July to the middle of September is transplanted into fields which have been specially prepared for it. These fields are situated in low-lying land called *rupit* and are surrounded by small *bunds* or ridges to retain the water. They are usually ploughed four times; the first ploughing is straight up and down the fields; after a week or ten days the second ploughing is done crossways. The other two ploughings follow at intervals of about two days. By the time these ploughings are finished the ground is worked up into soft pulpy mud and the seedlings are then transplanted into it. The young plants are put into the ground by hand, two or three together, at intervals of from six to nine inches. Once the rice has been transplanted nothing more is done until it is ripe and ready for harvest. The average outturn of *aman* rice is about 20 maunds an acre, but some of the lands in the Western Duars yield considerably more than this.

Bhadoi rice is grown on higher land called *faringati*. Preparation of the land begins in February; it is ploughed six to eight times and then levelled. The weeds are collected and

burnt, the ashes acting as manure to the soil. After this the seed is sown broadcast and the land slightly ploughed up twice and again levelled. When the young plants are about four inches high the fields are weeded and the crop thinned out with a rake. The outturn of *bhadoi* rice is less than that of *aman* and varies from sixteen to twenty maunds an acre.

Threshing is done with the aid of bullocks. After the crop has been brought in from the fields, the bundles of paddy are opened and spread in the courtyard and five or six bullocks are driven round and round over them. In three or four hours the grain separates from the straw and is carefully winnowed and cleaned. In the Sadar subdivision the straw is stored for the use of cattle, but in the east of the district grazing is so abundant that hardly any use is made of it. In the Western Duars cows are often used for threshing instead of bullocks.

Jute—The cultivation of jute has increased at a very rapid rate especially after the Partition. In the 'régulation' portion of the district the increase has been at the expense of the *bhadoi* rice crop, about 25 per cent. of the land which used to grow *bhadoi* rice being now devoted to the production of jute. The greater part of the increase has, however, taken place in the Western Duars. In 1895, when Sunder submitted his settlement report, the area under jute was only 6,620 acres and the crop was confined to the Mainaguri *tahsil* and grown mainly in the neighbourhood of the Kranti outpost. It has now spread throughout the Western Duars; large areas of land are under it in the vicinity of Madari Hat, and it is fast extending into the Alipur *tahsil*. The best variety of jute is that produced in the Rajganj police thana, but the quality of the fibre is good throughout the district.

The same class of land which is suitable for *bhadoi* rice is also used for growing jute. The land is well ploughed in March and April for about five or six days and the seed is then sown broadcast; one seer of seed is usually sufficient for a *bigha* of land but, if a field is covered with grass or weeds, two seers of seed to a *bigha* are sown.

When the crop is a few inches high, the fields are cleared of jungle with a large rake, which also serves to thin out the plants. After the jute has grown to a foot or eighteen inches high, it is again weeded by hand and is then left untouched until it is ready to cut.

By the month of August or September jute is from six to ten feet high and it is then cut and tied into bundles. After all the jute in a field has been cut, it is removed to a piece of high ground where the bundles are laid one on top of another, the leaf end of each bundle resting on the stalks of the bundle below it. The heap of bundles is covered with straw until, in about three days, the leaves dry up and can be shaken off. The plants are next taken to some shallow

stagnant water and steeped for three weeks or a month, by the end of which time the bark begins to separate and the stalk and fibre become soft. The jute is then taken out of the water; the plants are broken off about two feet from the bottom and the stalks are removed. The fibre is dried in the sun and cleaned until it is fit for the market. The lower part of the jute stalks, which is broken off in order to extract the fibre, is used for fuel; the upper part is used to make fences for the protection of crops, such as tobacco and vegetables, which are grown near homesteads.

Suitable weather after jute is sown is essential to the proper growth of the crop. Prolonged fine weather causes the young plants to wither and they either die out altogether or become stunted. Too much rain after the seed is put into the ground makes it rot and the sowing has to be done over again. The only other necessity is plenty of water at the time when the jute is steeped; the heavy rainfall of the Jalpaiguri district almost always ensures this, but occasionally in the south of the district there is not enough water, with the result that every pool and pond is used over and over again, and the fibre becomes black and loses the silky appearance which it ought to have.

Tobacco—Tobacco is a very valuable crop and is grown largely in the Western Duars, the best tobacco lands lying between the Tista and Torsa rivers. The crop requires careful cultivation and much labour to bring it to perfection; the results of all the industry bestowed on it may be lost in a few minutes if hailstorms occur in January or February just before the leaves are ready for plucking. In February 1905 three-quarters of a fine crop of tobacco were destroyed by two nights' frost which withered the leaves.

The crop is grown on good *faringati* land situated near the homestead of the cultivator. The land is carefully cultivated and all the available manure, consisting of cowdung and ashes, is put into it. The seed is sown in nurseries in July and August and the young plants have to be shaded carefully to protect them from the sun. Transplanting is done in October and November, the seedlings being placed in lines about two feet apart. The fields have to be kept well weeded and the crop requires constant attention until the leaves are ready for plucking in February and March. The yield of an acre of land is from six to eight maunds of tobacco and the market price ranges from six to twelve rupees a maund; the average price of good tobacco may be taken to be about eight rupees a maund.

Mustard—The mustard crop gives little trouble to the cultivator and does not require much attention. The seed is sown broadcast in October and November and the crop is reaped in February or March.

Other crops—Ginger is grown occasionally but, though it is a valuable crop, it exhausts the soil

and the cultivators do not care about it. Cotton used to be grown in some quantity by Meches and Garos in high lands towards the foot of the Bhutan hills, but the opening of the tea gardens and the introduction of forest conservancy has put a stop to their wasteful method of cultivation by jhuming and the cultivation of cotton has died out entirely. The opening up of the district has forced the Meches to abandon their migratory habits and to settle down to ordinary cultivation.

Improvements in agricultural practice—No improvements in agricultural practice call for notice except the abandonment of cultivation by jhuming by the Meches. The abundant rainfall and fertile lands of the district yield magnificent crops of rice and jute with very little exertion on the part of the cultivator.

Irrigation and reclamation projects—The following is a list of small irrigation and reclamation projects executed by the Government of West Bengal, reproduced below:

A—Details of Small Irrigation Schemes completed during 1949-50 in Jalpaiguri

Serial	Scheme	Station	Total expenditure		Area of benefited land (in acres)	Approximate extra yield (in tons)		
						Kharif	Wheat	Rabi
			Rs.	As. P.				
<i>Sadar Subdivision</i>								
1	Bundh of Talma River	Guzumari, Rajganj	1,464	10 0	80	40		
<i>Alipur Duars Subdivision</i>								
	Bholardabree Damampur Irrigation Scheme	Bholardabree, Alipur Duar	4,424	0 0	375	200		

B—Details of Small Irrigation Schemes completed during 1950-51 in Jalpaiguri

No.	Scheme	Station	Sanctioned expenditure		Total expenditure	Area of benefited land (in acres)	Approximate extra yield (in tons)		
							Kharif	Wheat	Rabi
			Rs.	As. P.	Rs. As. P.				
<i>Sadar Subdivision</i>									
1	Mending and Dredging of Dakshin Dhum-sora Canal	Dakshin Dhum-sora, P.S. Matiali	2,100	0 0	2,100 0 0	125	30	..	10
2	Canal Dredging at Mohitnagar	Mohitnagar, P.S. Jalpaiguri	2,625	0 0	1,600 0 0	150	26	..	10
3	Pathkata Jhora	Pathkata Belakoba, P.S. Jalpaiguri	1,260	0 0	1,260 0 0	100	13	..	8
4	Mending of Bundh at Moralpara, Tengipara and Hamimpara	Pathkata Union, P.S. Jalpaiguri	8,000	0 0	4,500 0 0	350	40	..	12
5	Mending of Bundh at Laharsingbaree	Laharsingbaree, P.S. Rajgunj	2,074	0 0	2,074 0 0	200	20	..	5
6	Bundh construction at Saldanga River	Sariyakuri, P.S. Mal	1,663	0 0	1,663 0 0	70	8	..	..
7	Bundh construction and Canal excavation at Uttar Chengmari	Uttar Ahen-gomaree, P.S. Mal	893	0 0	893 0 0	200	15	..	..
8	Bundh construction and drainage dredging at Tesimala village	Tesimala, P.S. Mal	1,733	0 0	1,733 0 0	162	12	..	..
9	Mending of Bundh and Dredging of Jibkati Canal	Ditto	997	0 0	997 0 0	90	9	..	..
10	Bundh construction at Neura-kanta Dighi Road and Dredging of Rangati River	Dakshinkanta Dighi Kumarpara, P.S. Mal	1,890	0 0	1,855 0 0	133	11	..	..
11	Bundh construction at Dakshin Khalpara	Changmaree, P.S. Mal	6,775	0 0	6,775 0 0	350	60	..	12
12	Bundh construction at Khalpara	Ditto	5,515	0 0	5,515 0 0	175	50	..	6
13	Bundh construction at Bamni River	Bairatiguri, P.S. Dhupguri	5,210	0 0	5,210 0 0	170	66	..	19

B—Details of Small Irrigation Schemes completed during 1950-51 in Jalpaiguri—concl'd.

No.	Scheme	Station	Sanctioned expenditure		Total expenditure		Area of benefited land (in acres)	Approximate extra yield (in tons)					
Sl.			Sadar	Subdivision—concl'd.	Rs.	As.		P.	Rs.	As.	P.	Kharif	Wheat	Rabi
14	Bundh construction at Gamdhara River	Dakshin Karihari, P.S. Dhupguri		Rs.	As.	P.	Rs.	As.	P.				
				1,835	0	0	1,835	0	0	90	20	..	
15	Drainage Dredging	Magurmari, P.S. Dhupguri		945	0	0	945	0	0	45	10	..	
16	Mending of Bundh and Drainage Dredging	Purba Altagram, P.S. Dhupguri		975	0	0	975	0	0	40	9	..	
		Alipur Duars Subdivision											
	Karaibaree Scheme	P.S. Falakata		840	0	0	840	0	0	700	40	..	15
	Singmaree Bundh	Ditto		998	0	0	998	0	0	250	20	..	5

C—Details of Small Irrigation Schemes executed from funds allotted to District Officer, Jalpaiguri during 1950-51

No.	Scheme	Station	Sanctioned expenditure		Total expenditure		Area of benefited land, (in acres)	Approximate extra yield (in tons)			
			Rs.	As. P.	Rs.	As. P.		Kharif	Wheat	Rabi	
Sadar Subdivision											
1	Mending of Jhora Bundh	Bodagandha P.S. Jalpaiguri	1,100	0 0	1,100	0 0	125	22		15	
2	Pathkatjhora Bundh	Mohitnagar P.S. Jalpaiguri	965	0 0	965	0 0	75	15		6	
3	Kharia Bundh	Ditto	1,500	0 0	1,500	0 0	130	10		5	
4	Bigar Barijora Bundh	Talma P.S. Jalpaiguri	708	0 0	708	0 0	70				
	Bundh construction at Aniajan	Bikur Gourgram, P.S. Mainaguri	2,974	0 0	2,974	0 0	500	70		13	
6	Gourgram Irrigation	Ditto	1,450	0 0	1,450	0 0	355	20		12	
7	Dangapara Irrigation	Ditto	1,500	0 0	1,500	0 0	380	25		10	
8	Nityaram Jiale Irrigation	Parchim Nityaram Jiale	1,050	0 0	1,050	0 0	100	18		3	
9	Tuklimari Small Irrigation	Tuklimari, P.S. Dhupguri	1,340	0 0	1,340	0 0	105	10		5	
10	Kursamari Small Irrigation	Kursamari, P.S. Dhupguri	355	0 0	355	0 0	30	5		5	
11	Purba Altagram Small Irrigation	Purba Altagram, P.S. Dhupguri	577	0 0	577	0 0	50	7			
12	Dakshin Altagram Small Irrigation	Dakshin Altagram, P.S. Dhupguri	370	0 0	370	0 0	50				
Alipur Duars Subdivision											
1	Meshtabari Irrigation	Meshtabari, P.S. Kalchini	935	8 0	935	8 0	200	40		20	
2	Gankhuriagaon Irrigation	P.S. Kumargram	490	8 0	490	8 0	100	27			
3	Drainage at Khutijora	P.S. Alipur Duars	1,000	0 0	1,201	2 6	425	60		30	

D—Details of Schemes completed by Irrigation and Waterways Department during 1950-51 in Jalpaiguri

No.	Scheme	Approximate expenditure	Area of benefited land (in acres)	Approximate extra yield (in tons)	
				Kharif	Rabi
1	Bundh construction at Chengmari Canal	Rs. 11,651	1,800	200	225

E—Details of Small Irrigation Schemes completed through voluntary private efforts during 1950-51 in Jalpaiguri

Serial No.	Scheme	Station		Approximate expenditure Rs.	Area of benefited land (in acres)	Approximate extra yield (in tons)		
		Sadar	Subdivision			Kharif	Wheat	Rabi
			P.O.					
1	Bargharia Bundh	Bargharia		750	50	5	..	1
2	Dharampur Bundh	Dharampur		900	100	9	..	2
3	Sourgram Bundh (1)	Sourgram		500	18	1	..	..
4	Kumarpara Bundh	Kumarpara		200	52	4	..	1
5	Sourgram Bundh(2)	Sourgram		400	6	1	..	..
6	Bamanturi Irrigation	Bamanturi		600	20	2	..	..
7	Parkumlai Irrigation	Parkumlai		500	15	1	..	..
8	Tuklimari Irrigation	Tuklimari		300	8	1	..	..
9	Altagram Irrigation	Magurmari		400	15	2	..	..
10	Bundh construction at Bhamtia River	Magurmari		200	5	1	..	..
11	Paschim Magurmari Bundh	Magurmari		300	5	1	..	..
12	Baragharia Irrigation	Magurmari		550	12	2	..	..
13	Madhya Baragari Irrigation	Magurmari		640	20	2	..	..
14	Harijore Irrigation	Mallicksova		400	40	18	..	..
15	Salbari Irrigation	Mallicksova		200	4	1	..	..
16	Khalaigram Irrigation	Khalaigram		300	6	1	..	..
17	Kanthapara Irrigation	Kanthapara		200	3	2	..	..
18	Purba Dangapara Irrigation	Purba Dangapara		340	6	1	..	..
19	Kazipara Irrigation	Kazipara		510	15	2	..	..
20	Jurapani Irrigation	Jurapani		390	7	1	..	..
21	Dakshin Odlabari Irrigation	Dakshin Odlabari		200	15	2	..	..
22	Purba Damdym Bundh	P.S. Mal		250	20	2	..	..
23	Jamsai Drainage	Haihaipathar		300	18	2	..	..
24	Kukhlai Bundh	P.S. Mal		260	20	2	..	..
25	Nichehalsa Bundh	P.S. Mal		510	15	2	..	..
26	Bargharia Bundh	P.S. Mal		640	30	3	..	..
27	Dhalabari Bundh	P.S. Mal		590	50	2	..	..
28	Kadalkati Bundh	P.S. Mal		410	20	2	..	..
29	Dakshin Majhgram	Ditto		370	25	2	..	..
30	Uttar Saripakuri	Ditto		450	30	3	..	..
31	Dakshin Saripakuri	Ditto		510	30	3	..	..
32	Kranti Bundh	Ditto		430	15	2	..	..
33	Uttar Matiali Drainage	Ditto		560	20	2	..	..
34	Chakmalani Bundh	Ditto		320	25	2	..	..
35	Aclabari Bundh	Ditto		400	40	3	..	..
36	Champadanga Bundh	Ditto		250	30	3	..	..
			Alipur Duars Subdivision					
1	Chota Alkumar Irrigation	P.S. Falakata		900	70	26	..	..
2	Badaitari Magurmari Irrigation	Ditto		800	50	15	..	..
3	Uttar Haldibari Canal	P.S. Kumargram		750	300	40	..	10
4	Dakshin Haldibari Canal	Ditto		180	200	36	..	8
5	Madhya Haldibari Canal	Ditto		1,150	200	40	..	4

F—Reclamation of land in Jalpaiguri, 1949-50 to 1951-52

Subdivision	Reclaimed by Government tractors (in acres)						Reclaimed by small irrigation schemes of Agriculture Deptt. (in acres)						Reclaimed through private efforts (in acres)					
	Gross area reclaimed		Land under different crops				Gross area reclaimed		Land under different crops				Gross area reclaimed		Land under different crops			
			Paddy	Potato	Wheat	Others			Paddy	Potato	Wheat	Others			Paddy	Potato	Wheat	Others
							1949-50											
Sadar Subdivision	120	70	12	..	38	515	390	21	..	104		
Alipur Duars Subdivision	1,166	757	117	9	283		
							1950-51											
Sadar Subdivision	600	400	100	100	1,463	1,017	45	..	401	828	389	20	..	419		
Alipur Duars Subdivision	630	600	..	..	30	1,323	640	84	12	587		
							1951-52											
Sadar Subdivision	1,390	1,171	2	..	217	468	305	12	..	151		
Alipur Duars Subdivision	100	30	..	70	1,975	1,850	..	..	125	1,065	783	75	5	202		

Agricultural implements—The agricultural implements in most common use among the cultivators are the following:—*kāl* or wooden plough; *phal* or ploughshare; *kodālī* or spade; *kurālī* or hatchet for splitting wood; *dāo*, a large knife or billhook; *khurshā* or *dhelābh-āngā*, a wooden mallet for breaking up clods of earth; *māi*, a bamboo harrow for levelling the fields; *bīdā*, a large bamboo or wooden rake for thinning and weeding the fields; it is usually drawn by bullocks; *khāntī*, or *kachī dāo*, a sickle or reaping hook; *dāokā* or *pāsar*, a rake for weeding. A set of these implements, together with a pair of plough bullocks, are required to cultivate what is technically known as a *hāl* or plough of land, equivalent to about five English acres.

Cattle The local cattle are small and weakly and no attempt has been made to improve the breed. Owing to the damp climate of the Western Duars, mortality among cattle is very great and it is not uncommon after a severe epidemic to see cows used for ploughing. Pasturage is abundant; in the northern *taluks* of the Western Duars green fodder is always available and paddy straw is only recently used for cattle. Formerly Meches and other cultivators used to pluming and having had no cattle, threw away the straw as soon as they finished threshing or allowed anyone who pleased to take it away. But now straw is very carefully preserved on raised wooden or bamboo platforms and made into neat ricks like Eskimo houses. In the regulation *parganas* and in the southern *taluks* of the Western Duars straw is stored for fodder and cattle are fed on it while the *āman* rice is growing and they cannot be allowed to graze in the fields. During the winter months large herds of buffaloes from Purnea, Rangpur and Cooch Behar are grazed in the reserved forests and in the waste lands of the Falakata and Alipur *taluks*. Buffaloes are seldom used for agricultural purposes; the professional graziers keep them for milk, most of which is made into *ghice*. Although there is no lack of pasturage in the district taken as a whole, sufficient grazing lands near the homesteads of the cultivators have not been reserved in all parts; the want of these is particularly felt in the pargana of South Mainaguri.

Recently in 1952-3 the Government of West Bengal has undertaken the establishment of an improved seed multiplication farm in police station Rajganj, pargana Baikunthapur in mauza taluk Kukurjan (J. L. 25). The farm will consist of a total of about 470 acres of land of which about 50 acres have already been acquired and the rest remains to be acquired. This is popularly known as the Talma Seed Multiplication and Poultry Multiplication Farm, and already work has started. The Government has also spent a great deal of money on what is known as the Phatapukur Co-operative Multipurpose Society, Limited, situated at Phatapukur,

16 miles from Jalpaiguri, astride the Jalpaiguri-Siliguri road. This Society was born of a desire to establish a planned colony of a large-scale agricultural venture in a compact but big fallow area by rehabilitating refugees from East Bengal. The Society was registered in March 1949 but actually started work in May. A wealthy *jotedar* voluntarily made over about 200 acres of land to the Government for the rehabilitation of refugees. This land formed the nucleus of the Society's agricultural colony. In the very first season colonisers reclaimed about 600 acres of land with the help of tractors. The aim of the Society was to rehabilitate 250 agricultural families and 50 families of village artisans and other professions to make it a self-sufficient economic unit. In 1949-50 the produce of the agricultural farm was valued at Rs. 70,500/-. By the second crop season of 1950-1 all culturable parts of the allotment of 1,400 acres were reclaimed. The total reclaimed area amounted to 1,100 acres including lands used for homesteads, threshing compounds, roads and farmyards. But the Society had reclaimed a little more than they could profitably utilise and in the winter of 1950-1 the cultivation was limited to about 750 acres. The total amount of land allotted by Government for settlement was 1,358 acres. A liberal allowance was made at one bigha for homestead land for each of 300 families settled on the farm. Offices, godowns, schools, hospitals, bullock and tractor sheds, thrashing sheds, playgrounds, bamboo groves, thatch preserves, grazing fields and roads were given generous allowances, and the area that remained for cultivation amounted to 900 acres. The available farm land per agricultural family thus amounted to about $3\frac{1}{2}$ acres. The achievements of this Society have been quite impressive. The cropping programme includes the raising of *aus*, jute and *aman* paddy, vegetables and potatoes, fruits, bamboo and thatch, green manuring and compost-making, raising of fodder and sugarcane and the laying out of a good network of roads throughout the colony. Houses have sanitary systems of sewage disposal. The Society managed to build houses, buy or hire bullocks and tractors, agricultural implements, reclaim waste lands, provide irrigation, acquire motor transport, provide machinery to artisans and build up a stock of stores, seeds, manures, rations and farm produce. In 20 months ending December 1950 it produced crops and other goods worth more than Rs 1,60,000, besides developing potential sources of income and building a new sanitary colony. The total population settled in the Phatapukur colony is about 1,500.

There is a small model farm in the heart of the Duars or midway between Dalgaon and Falakata. This is about a 200-acre farm, run on improved lines by an American Mission, but the farm does not seem to maintain contact or disseminate knowledge of improved cultivation in

the surrounding area. There is another Government agricultural farm at Mainaguri.

The Western Duars, i.e., the tract east of the Teesta, is all Khas Mahal lands and are not permanently settled. An account of the land tenures will be found elsewhere in this volume, but it is necessary to describe briefly how the Khas Mahals are managed in the interest of agriculture in the district. In Khas Mahals land is leased to farmers for periods of thirty years. Apart from the central office in Jalpaiguri which looks after the cantonment area, there are four tahsils; the first at Mainaguri, the second at Falakata, the third at Alipur Duars and the fourth at Kumargram or Bhalka. Revenue is collected in two instalments, the minor instalment of annas -[6]- on the 30th November and the major instalment of annas -[10]- on the 20th of February. The agricultural work in the Khas Mahals is under the general supervision of the Superintendent of Agriculture, the Khas Mahal Officer and the Tahsildar. The only big administrative farm in Khas Mahal land is at Mainaguri which has the district farm. Agricultural exhibitions used to be held formerly, but they have been discontinued. There is quite a variety of leases, some of which have been handed down from history, and a full account will be available in the *Bengal Waste Lands Manual* of 1936, which govern all kinds of Khas Mahal leases. Some of the historical leases are briefly mentioned below: (1) Old Mal *jots*, i.e., *jots* found in existence when the Duars were ceded by Bhutan. They are heritable, transferable at will; rents can be enhanced and the land can be used for growing tea or for any purpose without permission. (2) Mal *jots* or restricted Mal *jots*. These were *jots* settled by D. H. F. Sunder with those people who were found in possession but could not prove that they were in possession before the cession of the Duars. They are heritable and transferable, but the transferee in each case has to apply for mutation. The transferees have to be residents of the district and the income is expected to be derived mainly from agriculture. If tea is grown on these *Jots*, rent has to be paid as for tea lands, otherwise the rent cannot be enhanced. (3) *jots* regulated by the *Waste Lands Manual*. (4) C form leases and D form leases.

It is not difficult to appreciate from the nature of leases described in the *Waste Lands Manual* that the Government finds it convenient to lease out land in large parcels and inevitably all arable land, barring tea lands, in the district has been cornered by a handful of *jotedars* or leaseholders who hold from the Government. This has amounted to an enormous concentration of land and agricultural wealth in the hands of a very few landlords, some of whom outwardly of mean appearance, are fabulously rich. I used the words "outwardly of mean appearance"

not in any social sense, but having in mind the extent of investment these *jotedars* make on their lands to effect improved land management and cultivation. This is why in spite of the enormous concentration of wealth in his hands the *jotedar* has signally failed. He does not spend enough to improve his land or obtain improved seeds and manures or in acquiring machinery for improved cultivation, so that the land may yield more and bring him more prosperity. Instead, he parcels out almost all that he has to *adhiars* or agricultural serfs, who hold from him for a share of the crop which is often undefined. In the permanently settled area J. A. Milligan, the Settlement Officer of 1906-16, observed as follows:

Adhiars or *projas* have been customarily regarded as labourers cultivating the land of proprietors, *jotedars* or *chukanidars* on a half-share basis. They were not considered to have any right or title but to be liable to be ejected at the will of their employer. They are sometimes found to have lived for many years in the same place and cultivated the same land and to be independent of their *giri*, as the immediate landlord of an *adhiar* is called, in the matter of ploughs and cattle and even seed. The great majority however move about from field to field, from *giri* to *giri*, from locality to locality and have to be supplied with all the implements of agriculture, with seed and often with subsistence. Between these extremes many differences in degree occur but local custom has never recognised any difference in kind. To complete the tale of the *adhiar's* position, as we found it, his *giri* supplies him with a free house and prescribes the crop he has to grow; while in addition to growing that crop the *adhiar* works as a general labourer for hire on the lands of his *giri* or on those of his neighbours. In the jute steeping season and at the seasons of ploughing and reaping the *adhiar* can make a substantial income in cash besides being fed free by his employer for the day.

The lot of the *adhiar* so hurt the Government that the Director of Land Records tried to have recourse to a subterfuge for reinstating the *adhiar* if not as a tenant at least as an under-tenant. The following passage is significant:

In his inspection note of November 1907 the Director of Land Records (Mr Beatson Bell) laid down the following principles:—"In the zemindaries the first problem is to find the 'raiya'. In some cases he will be the *jotdar*, in some cases the *chukanidar*. The principles in accordance with which the *raiya* is to be found are indicated in section 5 of the Tenancy Act. This section lays down that we must have regard to (a) local custom and (b) the purpose for which the right of tenancy was originally acquired. The conception of a 'raiya', as distinguished from a 'tenure-holder', is foreign to the ideas of this district. I fear therefore that we shall not obtain much help from 'local custom'. Each case will have to be decided by ascertaining, as far as possible, the purpose for which the tenancy was originally created. It will often be difficult to do so during attestation. Whenever the parties produce satisfactory evidence regarding the origin of a tenancy, or whenever the Revenue Officer can of his own motion ascertain the origin, the tenancy should be classified accordingly, but when it is impossible at this stage to ascertain the origin, the Revenue Officer must follow some working rule and leave the aggrieved parties to contest his finding under section 103A. I would suggest that during the attestation of the zemindaries no *jotdar*,

chukanidar or derivative chukanidār, should be recorded as a 'raiya', unless—

- (a) his homestead is within the tenancy, and at least one-third of the arable land of the tenancy is in his immediate possession; or
- (b) his homestead is without the tenancy, and at least one-half of the arable land of the tenancy is in his immediate possession.

For the purpose of this diagnosis, land should not be considered as being in a man's 'immediate possession' if it is held by an *adhiar*."

The Settlement Officer, J. A. Milligan, was deeply disturbed at the injustice of this system of cultivation and moved a great deal so that *adhiars* could be recognised as tenants. In trying to do so he observed as follows: "It was felt to be intolerable that an agricultural system, which was extending and establishing itself with such remarkable rapidity as the *adhiari* system has done during the last quarter of a century, should deny all rights in the land to the class which formed the basis and backbone of any community carrying on agriculture under its auspices. It was resolved that this settlement must at least make a beginning in the eradication of this gross injustice." The following passage is quoted from pp. 88-93 of J. A. Milligan's Report on the Survey and Settlement Operations in the Jalpaiguri District, 1906-16, and records the measure of success which the Government achieved in reinstating the status of the *adhiar*. But such a system, based essentially on private oppression which the long arm of the law cannot reach by virtue of limitations imposed by itself, is liable to slide back unless constantly held in check. The decades between 1920 and 1940 were comparatively easy and few people bothered about the condition of the *adhiar*. But when a crisis appeared with the Second World War and the famine of 1943-4, the problem again raised its ugly head, and there was a series of disturbances between 1946 and 1950, which were characterised by small peasant uprisings all over the district on the matter of sharing out the produce. Although since 1950 there have been few incidents, yet the position of the *adhiar* not having been made square enough, the problem still smoulders. The passage from J. A. Milligan is very illuminating, and applies with more or less force to all the districts of West Bengal.

In the last paragraph I quoted Mr. Tweedie's definition of *projas*. The terms "*proja*" and "*adhiars*" were interchangeable.

It will be observed that Mr. Tweedie recognised the *proja* as a tenant as distinct from a hired labourer and gives no account of his rights, and I think it must be admitted in the light of subsequent events that no rights of any kind were customarily recognised as appertaining to this tenancy in those days.

In considering the results of Beckett's Settlement, in the course of which *adhiars* were merely recorded by name, the following order of Government was passed (No. 5109 of 4th December, 1872, to the address of the Board of Revenue):

For the *projas*, who mostly hold under the *raiya*, pay a corn-rent, and often till with the *raiya*'s cattle, no special protection can be given at the present settlement beyond any twelve year occupancy right they may have in accordance with the terms of Act X of 1859. Their position may, however, be considered hereafter.

It should be noted that, although the Government Resolution on the Land Revenue Administration Report for 1870-71 would lead one to think otherwise, Act X of 1859 was never formally extended, and in 1878 it was recognised that it was not in force in the Duars. This fact was re-affirmed in 1888 when the legal position prior to the inception of Mr. Sunder's Settlement was under consideration.

So, however, instructive it may be as a declaration of policy, the above quoted order did not confer any tangible boon on the *projas*.

In 1874 at Sir Richard Temple's Jalpaiguri Conference previously referred to, *adhiars* were specifically excluded from the protection which it was resolved to give to under-tenants at the forthcoming settlement, and in the Government order confirming those resolutions this significant phrase occurs—"the actual cultivators of the soil (not being mere *adhiars*)." The Government of Bengal further, in their letter to the Board, No. 893T., dated 18th July, 1878, directed as follows:

The only classes of under-tenants for whom rates need not be fixed are the *projas*, who merely share the produce (the peasantry was apparently unavoidable) "with the ryot or jotdar, as the case may be, and who are labourers rather than ryots."

The next reference of importance to the *adhiari* question occurs in Board's letter to Government, No. 743A., dated 27th August, 1884, where they point out the evils of the system of cultivation by *adhiars* or *bhoali* tenants. Government replied, however, that the system was the only possible one in newly-settled countries and was working successfully in other parts of Bengal. They admitted that at a certain stage in the progress of agriculture defects in the system became apparent.

In 1888 prior to Mr. Sunder's Settlement the *adhiar* came in for his full share of discussion and a more or less vague policy for the raising of his status was adumbrated.

Mr. Lowis in his proposals deals at considerable length with the position of the *adhiar* and his views are worthy of reproduction. He begins by saying that "as regards the mere *adhiar* he has no rights to be recorded, but his name should appear in the settlement papers and he should have the same privilege as a non-occupancy *raiya*, namely, he should not be liable to eviction so long as he pays his rent"; further on he defines the *proja* as one who "has no rights; he is an *adhiar* who pays a corn-rent in the shape of half produce." Such were the conclusions resulting from his enquiries into the existing incidents of the *adhiar*'s tenancy. He did not, however, recommend that this unsatisfactory state of affairs be allowed to continue. Wide local enquiry had convinced him that a solution he had considered possible, namely, commutation of rent in the case of *adhiars*, who had held the same land for years, would not be at all successful as local opinion was dead against it. He believed that if left to itself the *adhiari* system would work itself out as it had done in Chittagong, but he recommended that the Settlement Officer be instructed to encourage *adhiars* to seek commutation. The chief burden of the *adhiars* as a class he found to be their debt to their landlords largely due to exorbitant rates of interest and he suggested that the Lieutenant-Governor should by executive order prohibit courts from decreeing more than 12 per cent in such cases.

In sending on these proposals to Government Mr. Finucane went further and recommended that any *adhiar*, who was found to have been 12 years in possession of any land should be recorded as the possessor of occupancy rights within the jote. He did not however anticipate that *adhiars* would venture to assert such claims. He further recommended that commutation be allowed whenever asked for, but as before he did not anticipate that any *adhiars* would venture to ask for it. But while making these recommendations he frankly states "Under the conditions described by the Commissioner I do not think that much will be gained by efforts to raise the position and status of these *adhiars*. Such of them as may be able by thrift to save a little money have already an opportunity to acquire land which they can cultivate on easy terms at a money rent, and can thus better their condition, and those who are so poor or helpless that they cannot raise themselves in this way, are not likely to be much benefited by any arbitrary rules which Government may prescribe in their favour. I would therefore merely note their names as *adhiars* against the lands they are found to cultivate in the year of survey; where they have been found to be 12 years in possession of any land whatever under one jotedar the fact should be noted and they should be recognised as occupancy tenants of any land they may cultivate at any future time in that jote. Further if they apply for commutation of their corn-rents to money-rents, such commutation may be made."

As regards limitation of the rate of interest he advised that the report of the Settlement Officer be awaited after going into the facts.

That Government had no immediate intention of moving in the matter is clear from the wording of the A. W. Lands Leases framed in that year, wherein *chukanidars* are promised no obstruction "in the employment of *adhiars*, *projas* and other labourers supplied with seed and paid by giving them half the crop." The Mal Jote Leases of Mr. Sunder similarly refer to the "employment" of *adhiars*; but the description of the *adhiar* contained in his report, though it begins with the traditional tag—"This tenant has no rights", is not altogether the description of a mere labourer or farm-servant, and contains this most important utterance:

He pays rent in kind, namely half of all crops may grow on the land which is allowed to him.

Mr. Sunder does not however claim that his Settlement has done anything to improve or even to define the status of this unfortunate class, nor does he suggest that any such efforts are desirable.

The next mile-stone in the *adhiar's* progress was Notification No. 964 T.R. of 5th November, 1898, extending the Tenancy Act with certain limitations to the Western Duars. This notification speaks of jotedars, *darchukanidars*, *adhiars* or other tenants of agricultural land, and as it was a Tenancy Act Notification, the word "tenant" was presumably used in its technical sense. This cannot of course be taken as a ruling that all *adhiars* are tenants under the Act, but at least it disposes of the prevailing hearsay that all *adhiars* are merely labourers and have no tenant rights.

As however the application of the Act was to be limited by the definition of the rights and obligations of these various classes of tenant contained in settlement proceedings theretofore approved by Government or with the terms of leases theretofore granted by Government it would seem *prima facie* that the dictum of Mr. Sunder and the wording of the notification and leases above referred to were intended to be perpetuated to the eternal damnation of the *adhiar*. It is true that the Advocate-General at the time held that although prior to 1898 *adhiars* had no rights they would by virtue of Notification No. 964 T.R. be able

to acquire occupancy rights under the Act, but in giving this opinion he was only reviewing the situation arising from the fact that no leases had ever been granted by Government to *adhiars*; the limitation imposed by rights and obligations defined in settlement proceedings was not under consideration by him.

It is worthy of note that in the final report of the Darjeeling Terai Settlement and in the notes and resolutions thereon in 1898 the references made to *adhiars* do not suggest that any progress had been made towards the recognition of that class as something superior to mere labourers.

From that date to the commencement of the present settlement the question lay dormant. But one significant circumstance is noteworthy, namely that the Civil Courts treated as rent-suits all suits brought by jotedars for recovery of their share of the crop, and in various decrees *adhiars* were alluded to as tenants.

It will be clear from the foregoing narrative that while on the one hand nobody had ever succeeded in finding that any rights were actually owned and exercised by *adhiars*, on the other hand there was a general feeling that something should be done to secure to these people some sort of tenant-right in their lands. Nothing came of the various proposals made, and when this settlement began we found the *adhiars* in exactly the same position as Tweedie described in 1864. In the 1880 Settlement, *khatians* were given to all *adhiars* but in 1888 Major Boleau reported that in 90 per cent of cases the lands had since changed hands. This experience, no doubt, accounts to some extent for the most exclusively academic nature of the subsequent discussions and pronouncements on the subject.

The question which this settlement set itself to solve was whether *adhiars* really had any legal rights which could be secured to them; if not, whether a beginning could not be made in the policy of creating a healthy tenant right for this class. All the previous discussions above described related to the Western Duars. In the zemindary area, the problem had never been considered. The Settlement Report of the Chaklaj Estate, written by Babu Harendra Narayan Choudhuri of Cooch Behar, does not discuss the question. Neither in the Chaklaj Estates nor in Cooch Behar itself had it apparently arisen. It may well be that when those settlements were going on *adhiars* were a comparatively small class. In the Western Duars, whereas Mr. Sunder found 22,170 *adhiars* in occupation of 71,366 acres, this settlement recorded 32,408 *adhiars* occupying 134,355 acres, but it is certain that very many were not recorded at all, and owing to a misunderstanding of orders by some of my staff many names of *adhiars* were deleted from the record at the stage of Field Bujharat on the ground that they were not then found. Whatever may have been the extent of the system in the past I calculated in 1912 that 2/3 of the cultivation in the zemindary areas was done in this way.

We were therefore confronted with a double-headed problem. In the Western Duars we had some past experience, some sort of ill-defined policy to guide us; but in the area to which the Tenancy Act fully applies we were tackling the problem *de novo* without any local precedents of unquestionable validity. The decisions arrived at and the action taken in the settlement of 4 private estates in Rangpur just before the beginning of this settlement though of great interest, could not be acted upon in Jalpaiguri as precedents. Before stating what we did, I would draw attention to three points in criticism of the proposals of Mr. Lewis and Mr. Finucane above described.

(1) The enormous growth of the system during the past 20 years, with the almost entire disappearance of the lower grades of cash-paying tenants and a marked proportional decrease even of the *chukanidars*, has entirely belied the hope expressed by Mr. Lewis that

the system would work itself out. It shows no sign of doing so.

(2) Mr. Finucane's reassuring reflection, that *adhiars* who by thrift achieve independence can settle on lands of their own, is no longer an argument for *laissez-faire* in the Western Duars where the settlement of waste land has been stopped; and it has no application at all to the zemindary areas.

(3) The widespread introduction of jute as a crop and the extension of tobacco cultivation make it no longer accurate to describe the *adhiar* as a man paying a corn-rent, and increase the practical difficulties in the way of commutation. I may add that public opinion is still as strongly opposed to such a course as it was in the time of Mr. Lewis, probably more so.

I have endeavoured to make clear the position of *adhiars*, and the attitude of Government and local custom towards them prior to the inception of this settlement. I shall now outline as briefly as possible the discussions which arose during this settlement, the policy adopted, and the results achieved.

The spirit in which this problem was approached was strongly antagonistic to the popular conception of an *adhiar*. It was felt to be intolerable that an agricultural system, which was extending and establishing itself with such remarkable rapidity as the *adhiari* system has done during the last quarter of a century, should deny all rights in the land to the class which form the basis and backbone of any community carrying on agriculture under its auspices. It was resolved that this settlement must at least make a beginning in the eradication of this gross injustice. In the course of the discussions that paved the way for definite orders some misunderstandings arose from failure at all times to distinguish between the *de facto* incidents of an *adhiar's* tenure according to local custom and usage, and the *de jure* character with which it was considered desirable and feasible to invest it at the present stage, and the criteria to be adopted for the purpose, but such misunderstandings merely delayed they did not prejudice the decision. Such was the unanimity and rigidity of local opinion on the question that, pending the collection of information on which to base a definite policy, all *adhiars* were at first merely recorded in the *khatians* of jotedars and chukanidars in the column for subordinate interests in occupation of plots. Such a record was sufficient for the preparation of separate *khatians* if such were subsequently decided upon. At the same time a register of *adhiars* was kept in which the length of time for which he had held the same lands was noted, as well as the facts about the possession of cattle and ploughs, the custom regarding advances, seeds, housing and arrangement of what crop was to be grown year by year. It further transpired that in many cases written agreements were drawn up and a large number of these were collected. A selection of these agreements were submitted to the Legal Remembrancer by the Director of Land Records along with a full note on the whole question; and he expressed the opinion that these documents created tenancies within the meaning of the Bengal Tenancy Act, and that *adhiars* would in general be found to be yearly tenants. He did not however suggest any lines of division to be followed with regard to the rights of such *adhiars* as might be found to be tenants but he stated that their relations with their landlords would be regulated by custom and contract.

Subsequent investigation showed that it would be unsafe to build too heavily on the foundation of those documents. It appeared that in most cases where such a document was executed the *giri* was forcibly converting a cash-paying tenant into an *adhiar*—a common tendency throughout the district. Such *kabuliyats* were invariably found in the possession of the *giri*, and no corresponding document was found with the

adhiars. The essential features of those *kabuliyats* were that the *adhiar* bound himself to repay advances, deliver half the crop, obey orders, properly cultivate the land, and vacate it at the end of the contract; his use and occupation of the land being guaranteed for one year or longer as the case might be. The language used and amount of detail incorporated were found to depend on the education and legal experience of the particular *dewan* or tout who wrote the document. But though the actual words used in such *kabuliyats* might not be a sound basis for argument, the fact that such *kabuliyats* were by no means uncommon went far to contradict the popular definition of an *Adhiar* as a mere labourer.

The opinion above quoted was an important pronouncement and it afforded a definite basis on which to build up a policy.

In the Western Duars, where the Tenancy Act only applied to certain lands and only in a restricted manner to them, and where no classification of tenants under chapter II was being made, it was decided that separate *khatians* should not on this occasion be opened for *Adhiars*, but that a clause should be inserted in the new leases of Jotedars and Chukanidars definitely stating that *Adhiars* who cultivate with their own ploughs and cattle shall be deemed to be tenants including protection from eviction except by their own consent or under the orders of a Civil Court.

In the zemindary area where the Tenancy Act fully applies, it was decided to open separate *khatians* for all *Adhiars* who possess their own ploughs and cattle and to bring them within the classification of chapter II of the Act classing as Raiyats all those whose landlords do not satisfy the Tenancy Act definition of Raiyats, and as Under-Raiyats all those whose landlords are already classified as Raiyats.

The adoption of the criterion of "independence in the matter of ploughs and cattle", as the touchstone of tenant-status, was not arrived at without considerable correspondence and discussion. The first proposal was that all *Adhiars* who had held the same land for a period of years—12 was the number suggested as it had figured in previous discussions of the question and had actually been adopted in the Cooch Behar Tenancy Act as a criterion; *vide* also section 603 of Sunder's report—and who were independent in the matter of ploughs and cattle, might safely be recorded as tenants. In support of the contention that a period of time was a desirable condition it was pointed out that the vast majority of *Adhiars* were annually on the move and rarely stayed for more than a season or two on any one bit of land. In this connection Major Boileau's report of 1888 above quoted is interesting, *i.e.*, that between 1880 and 1888 in 90 per cent. of cases the lands of *Adhiars* had changed hands. It was further pointed out that in Western Duars many of the *Adhiars* are ex-Tea-garden coolies, who almost invariably possess cattle when they leave the garden, and usually drift from one *Adhiari* to another till they find a place to suit them, where they settle down.

All these points were duly considered but the Board decided that independence was the only criterion which could not be evaded by hostile landlords, and they were not prepared to take the drastic step of declaring all *Adhiars* to be tenants.

This general recognition is the ultimate goal of the policy now definitely inaugurated, but there are difficulties to be overcome before that goal can be reached, in the Western Duars at least. In the zemindaries I anticipate that it will not be long before all *Adhiars* are definitely classed as tenants by Law. But before anything more can be done in the Duars the anomaly of issuing A.W.L. Leases, wherein *Adhiars* are described as labourers supplied with seed and paid by giving them half the crop, side by side with the new Mal Jote Leases, wherein it is provided that *Adhiars*

who cultivate with their own ploughs and cattle shall be deemed to be tenants, must be removed.

The results of our present actions in the zemindari area put into figures are as follows :—

Total No. to whom <i>khatians</i> were given	19,228
Classed as Raiyats	9,681
Classed as Under-Raiyats	9,547

During recovery I had a careful enquiry made to see how many of these *Adhiars* were still in undisturbed possession of their lands. In certain localities I had heard that the landlords had ejected every *khatian*-holding *Adhiar* neck and crop; but apparently they thought better of it, for the recovery officers reported that all *khatian*-holding *Adhiars*, whom they looked for, were still there.

We may safely say that the action we have taken has been acquiesced in by the Jotedars; and there are signs that already the *Adhiars* have begun to realize and appreciate the boon conferred, inasmuch as a few cases have been brought under section 106 by *Adhiars* seeking to be granted *khatians*.

It should be clearly stated that the rapid growth of the *Adhiari* system is viewed with alarm and disapproval by Government, and that the deliberate aim of the policy now inaugurated is to check the further spread of a system which is so economically unsound—in the zemindari areas, by replacing the helpless *Adhiar* of to-day by an *Adhiar* who has recognised tenant rights; in the Western Duars by discouraging cultivation by *Adhiars*, by reducing the size of *jotes* so as to eliminate the necessity for sub-infeudation, by increasing the area held by small resident cultivators, and lastly, as in the zemindari area, by converting the *Adhiar*, who has no recognised rights, into a tenant.

One of the specialities of Khas Mahals of Jalpaiguri is that the Government maintains a large number of Khas Mahal markets to facilitate the marketing of agricultural products in the Western Duars. The markets are looked after by the Khas Mahal Department and are controlled by a local set of rules called the Western Duars Market Fund Rules for the District of Jalpaiguri, published in 1922. These rules apply only to Jalpaiguri district and are financed by a fund called the Western Duars Market Fund. The purposes for which the fund is expended are the following :

- (a) For the payment of the establishment required for collection, supervision and maintenance of the markets in a proper sanitary condition as also for the construction and maintenance of the quarters of such establishments.
- (b) For the construction and maintenance of works of public utility and convenience in the markets or in connection with them, such as sinking of wells, construction of sheds, public necessities and urinals, planting trees, repair or reconstruction of roads leading to markets, etc., as well as any such sanitary measures as may be necessary from time to time.
- (c) For the establishment of new markets, and
- (d) For such other purposes (for the direct or indirect benefit of markets) as may be approved by the Administrator (nor-

mally the Deputy Commissioner) with the sanction of the Commissioner.

This fund consists of the collections in the Khas *hats* which amount to quite a tidy sum, of which the bulk is spent for improvements to the *hats* themselves and to their approaches, such as roads and bridges. Government does not expect to make revenue from the *hats* but puts back practically all the collections into the improvement, keeping a closing balance sufficient to pay the establishment. As a result of the working of this fund market prices of agricultural products all over the Western Duars are more or less uniform, something which is rare in other districts. This is on account of the approach roads being always kept in good repair and open to motor transport. Throughout the district there is a network of motor services, especially for these markets and these motor services are called "*hat* services". There is another fund designed for agricultural improvement in the district. This is called the Jotedar's Fund. An account of its origin is quoted below from p. 91 of D.H.E. Sunder's Settlement Report :

In Government of Bengal, Revenue Department letter No. 465 T R, dated 5th November 1890, I was ordered to furnish a description of the Jotedars' Union Fund of the Western Duars in this settlement report. The circumstances under which I established the fund are as follows :

Having abandoned hope of getting any sufficient assistance from Government for effecting sanitary and other improvements in the Duars, I called a meeting of the jotedars of Mynaguri, Falakata, Alipur, and Bhalka tahsils, and explained to them that, owing to the present financial pressure, Government is unable to provide all the funds which are wanted to improve the condition of the people by introducing new crops, sinking wells for the supply of good drinking water, constructing village roads, &c. I impressed upon them the necessity of doing something to help themselves, and suggested that a fund of their own in connection with each tahsil be established for improving the condition of jotedars and cultivators throughout the tahsil. I explained to them that the money would be expended exclusively for their own benefit, and that the fund would be managed entirely by themselves through a committee of the most respectable jotedars who would be elected by themselves from each tahsil and who would do all work under my guidance. I also assured the people that every rupee they may subscribe would be deposited in the Post Office Savings Bank in their name and for their benefit, and that no part of the funds would ever be used by the Deputy Commissioner, or by me or by any other person who may be appointed after me to help and advise them and to look after their interests except with the sanction of their committee. I further assured them that Government would not at any time appropriate any part of the funds, and that we would ever do all that is possible to secure their advancement and general improvement.

The works which were suggested for using the fund for were (1) providing wells for pure drinking water; (2) opening village roads; (3) supplying fruit and other trees to jotedars and cultivators generally; (4) getting better sickles and agricultural implements; (5) obtaining good manures for securing better out-turn of crops; (6) purchasing vegetable, potato, wheat, maize, and other seed for introducing new and valuable crops; (7) helping poor cultivators with good

cattle; (8) clearing jungle; (9) opening charitable dispensaries or helping them; (10) providing a supply of blankets annually for old and indigent cultivators; (11) assisting widows and orphans of cultivators who may be in distress, and any other useful works which may be necessary from year to year.

I suggested to the jotedars that the above fund should be raised by themselves, and that, if each of them pays one rupee at the six-anna kist demand and another rupee during the ten-anna kist demand annually, over and above the rent which may be due for their jotes, very soon the fund in connection with each tahsil would be a powerful help for improving the condition of the people and that much good would be done everywhere in the Duars.

My appeal to the people was responded to. Some jotedars of course refused to pay anything towards the fund; but the majority subscribed. How the fund was administered by me up to 9th April 1894, when I made it over to the Deputy Commissioner, is shown in the account in Appendix IV* of this report. On 27th September 1894, the money in the hands of the Deputy Commissioner on account of the fund was as follows :

	Rs.	A.	P.
Mynaguri tahsil	5,670	6	3
Falakata „	2,006	15	9
Alipur „	555	7	3
Bhalka „	624	14	0
Total ..	8,857	11	3

The weak points in the Jotdars' Union Fund, of which the Deputy Commissioner is the administrator, is that it is collected with the revenues, and therefore it is difficult to say how far payment is spontaneous. One Deputy Commissioner in 1935 observed : "Is really an abwab... continues to decrease". Most of the money in the Jotdars' Fund is spent on education, dispensary, water-supply and improvements. Jobs are framed nominally by the Jotedars at a meeting, but they do not take much interest in the matter and "regard the whole thing as an abwab (which it is)". An enterprising Deputy Commissioner sometimes spends some of this fund for the exploitation of several crops and more especially fruits and vegetables. No extra establishment is maintained to administer the fund.

The following information relating to the varieties of crops grown in the district and the blights, pests and diseases they are liable to, have been kindly furnished by the Superintendent of Agriculture of the district.

KINDS OF RICE

- (a) Boro Nil
- (b) Aus Dharial, Panspai, Atlai, Saru Bhadai, Sani & Jamru
- (c) Aman Benafuli, Dadkhani, Dudkalma, Dudsar, Tulapanji, Kalonunia, Harisankar, Bawa, Indrasail, Boldar, Enda, Panisail, Kartik-sail, Malsira

* Reference to the original—A.M.

KINDS OF JUTE

- C. capsularis—(1) Hewti, (2) Sadaguti, (3) Nalita, (4) Fanduk, (5) Kaniyabombai (D. 154)
- C. olitorius—(1) Chinsura green, (2) Japani pat, (3) Belun pat,

KINDS OF SUGARCANE

Tana, C.O. 421, C.O. 527

INSECT PESTS AND DISEASES

Crops	Insect pests	Diseases
Paddy	Rice stem borer (Schcenobius Incertellus)	Stem rot or sclereotial disease
	Rice bug (Leptocoris acuta)	(Sclerotium oryzac catt.)
	Rice Hispa (Hispa armingera 01.)	Leaf spot (Helminthosporium Oryzae)
Jute	Jute semi-looper (Cosmophila subalifera)	Stem rot of jute (Macrophomina phaseoli)
	Jute hairy caterpillar (Diachasma obliqua)	
Sugarcane	Sugarcane top shoot borer (Scirpophaga nivella F)	Red rot of sugarcane (Colletotrichum falcutum)
	Stem borer (Argyria tumidicostalis and Diatraea venosata wik)	
Vegetables	Cut worm, beetle	Epilacuna Viruses, wilt, late blight

TEA

How recently the tea industry in the district has grown can be appreciated from the fact that there is no mention of tea whatsoever in W. W. Hunter's Statistical Account of the District published in 1876. Colonel Kyd, once Curator of the Botanic Garden at Silpur, made experiments for growing tea about the period 1790-1800. The district of Darjeeling was the first district in West Bengal to try to grow tea and started as early as 1845. The tea industry in Jalpaiguri began in the year 1874-5. The first leases were issued to 22 gardens in 1877, and by 1895 when Sunder completed his settlement report, there were 182 gardens. A statement on the progress of the tea industry in the district has already been given above. The first Indian tea garden was started in 1879. Dr. Charu Chandra Sanjal of Jalpaiguri has kindly permitted me to reproduce the proceedings of the First General Meeting of the Shareholders held on the 2nd June, 1879, and the First and Second Meetings of the Directors held on the 4th June and 3rd July, respectively. The first tea garden was named the Jalpaiguri Tea Co., Ltd. It is significant to note that the proceedings of both the Shareholders' Meeting and the Directors' Meeting were, as early as 1879, recorded in the Bengali language.

জলপাইগুড়ী 'টী' কোম্পানী লিমিটেড

Jalpaiguri Tea Co. Limited.

1879

অংশীদারগণের সভার নির্ধারণ বহি

উপস্থিত

শ্রীযুক্ত বাবু মহিমচন্দ্র ঘোষ

„ „ গোপাল চন্দ্র ঘোষ

„ „ জয়চন্দ্র সাহা

„ „ কেশব চন্দ্র ঘটক

„ „ রামচন্দ্র সেন

„ „ হরিশ্চন্দ্র অধিকারী

„ „ যাদব চন্দ্র চক্রবর্তী

„ „ মদন মোহন ভৌমিক

„ মুন্সী আজিজুদ্দীন মজুমদার

উপস্থিত সভ্যগণের সর্বসম্মতামতানুসারে শ্রীযুক্ত বাবু জয়চন্দ্র সাহাকে সভাপতির পদে বরণ করা গেল ও তিনি সভাপতির আসন গ্রহণ করিলেন। তৎপরে সভার কার্য আরম্ভ হইল।

নির্ধারণ

১। এই কোম্পানীর রেজিষ্টার্ড (সদর অফিস) সম্প্রতি জলপাইগুড়ীতে ঘর স্থাপিত হইল। (সর্বসম্মতি)

২। সর্বসম্মতিক্রমে নিম্নলিখিত সভ্যগণকে ডাইরেক্টর মনোনীত করা গেল।

বাবু জয়চন্দ্র সাহা, বাবু গোপাল চন্দ্র ঘোষ, বাবু মহিম চন্দ্র ঘোষ, বাবু যাদব চন্দ্র চক্রবর্তী, বাবু হরিশ্চন্দ্র অধিকারী।

৩। সর্বসম্মতিক্রমে নিম্নলিখিত ব্যক্তিগণকে সেক্রেটারীর পদে নিযুক্ত করা গেল।

বাবু কেশব চন্দ্র ঘটক—সেক্রেটারী

বাবু রামচন্দ্র সেন—আসিষ্ট্যান্ট সেক্রেটারী

৪। মিমোরেন্ডম ও আর্টিকলস্ অব আসোসিয়েসন নামক নিয়মাবলীর প্রত্যেক খণ্ডের মূল্য সর্বসম্মতিক্রমে ১০ চারি আনা অবধারিত হইল।

৫। অংশীদার ভিন্ন অপর কোন লোক কোম্পানীর অফিস হইতে কোন বহি কি কাগজপত্র দেখিতে ইচ্ছুক হইলে তাহাকে ১০ আট আনা ফি দিতে হইবেক। (সর্বসম্মতিক্রমে)

৬। সর্বসম্মতিক্রমে ইহা অবধারিত হইল যে অংশীদার প্রতি যে সমস্ত নোটিশ জারি হওয়া আবশ্যিক হইবেক তাহা হলে এবং অবস্থা বিশেষে লোক যারফৎ কিংবা ব্যারিং এবং পেইড্ চিঠি দ্বারা জারী করা যাইবেক। এবং লোক দ্বারা যে চিঠি বিলি হইবেক তাহার রশীদ রীতিমত রশীদ বহিতে লইয়া ঐ চিঠি দেওয়া যাইবেক।

তারিখ—২ জুন,

১৮৭৯ ইং মোতাবেক,

বাহালা ২০ জৈষ্ঠ,

১২৮৬ সাল

স্বাঃ শ্রীজয়চন্দ্র সাহা
সভাপতি

প্রথম বাৎসরিক সম্মিলনী সাধারণ সভার

প্রথম অধিবেশন

জলপাইগুড়ী 'টী' কোম্পানী লিমিটেড

১৮৭৯ সাল ১৩ই জুলাই। রবিবার ২টাব সময় অধিবেশন হইল।

উপস্থিত

বাবু জয়চন্দ্র সাহা

„ শ্রীনাথ চক্রবর্তী

„ উমেশচন্দ্র রায়

„ গোবিন্দ চন্দ্র তরফদার

„ শ্রীমা প্রসন্ন রায়

„ কেশব চন্দ্র ঘটক

„ মতিম চন্দ্র ঘোষ

„ গোপাল চন্দ্র ঘোষ

„ জানকী নাথ বিশ্বাস

„ মহিমাচন্দ্র চক্রবর্তী

„ কৈলাস চন্দ্র ঘোষ

„ গোবিন্দ চন্দ্র চক্রবর্তী

„ ভবানী চরণ ঘটক

„ যাদব চন্দ্র চক্রবর্তী

„ দেবেন্দ্র হাকিম

„ হরিদয়াল গুহ

বাবু রজনীকান্ত গঙ্গোপাধ্যায়

„ জগচন্দ্র ঘটকের পক্ষে

বাবু কেশব চন্দ্র ঘটক প্রকৃষ্টী

„ হৃদয় নাথ অধিকারীর পক্ষে

বাবু গোপাল চন্দ্র ঘোষ প্রকৃষ্টী

„ জীবন কৃষ্ণ রাহা

„ কালীনাথ বন্দ্য

„ হরিশচন্দ্র অধিকারী

„ নবকুমার গুহ

„ রামচন্দ্র সেন

„ চন্দ্র কুমার দাস

„ ভুবন মোহন চৌধুরীর পক্ষে

বাবু শ্রীনাথ চক্রবর্তী প্রকৃষ্টী

„ মতিলাল গুপ্তের পক্ষে ঐ

„ মথুরা নাথ গুহের পক্ষে ঐ

„ হুর্গাদাস বন্দ্যের পক্ষে ঐ

„ আছিরুদ্দীন মজুমদার

শ্রীযুক্ত ব্রহ্মময়ী দেববার পক্ষে

ঈশান চন্দ্র বিশ্বাস

বাবু শ্রামচরণ দাস

„ ললিত মোহন সরকারের পক্ষে

হারাগচন্দ্র সরকার

নির্দ্ধারণ

(১) বাবু শ্রামাপ্রসন্ন রায় মহাশয়ের প্রস্তাবে এবং বাবু কেশব চন্দ্র ঘটকের প্রতীপোষকে সর্বসম্মতিক্রমে বাবু জয়চন্দ্র সাহালাকে অঙ্ককার সভার সভাপতির পদে বরণ করা হইল।

(২) সর্বসম্মতিক্রমে বাবু শ্রামাপ্রসন্ন রায়কে হিসাব পরীক্ষক (অডিটর) নিযুক্ত করা হইল।

(৩) নিয়মাবলীর ৫১ ধারামুসারে কোম্পানীর টাকা গোপাল চন্দ্র ঘোষদিগের জলপাইগুড়ীস্থ দোকানে রাখার বাধা নাই।

(৪) জলপাইগুড়ীস্থ লয়েড্ বাক্‌তে কোম্পানীর টাকা রাখিবার অবধারিত “বাক্” বলিয়া স্থির হইল।

(৫) নিয়মাবলীর পঞ্চাশ দফামুসারে পূর্বতন ডাইরেক্টরেরা অবসর হওয়ায় নিম্নলিখিত ব্যক্তিগণকে অধিকাংশের মতামুসারে ডাইরেক্টরের পদে নিযুক্ত করা গেল।

বাবু শ্রীনাথ চক্রবর্তী

„ জয়চন্দ্র সাহালা

„ গোপাল চন্দ্র ঘোষ

„ মহিমাচন্দ্র ঘোষ

„ যাদব চন্দ্র চক্রবর্তী

(৬) মাসিক কুড়ি টাকা বেতনে শ্রীযুক্ত বাবু উমানাথ চক্রবর্তীকে সেক্রেটারী নিযুক্ত করা গেল। তিনি আগামী ১৪ই জুলাই হইতে স্বীয় কার্যে প্রবর্ত হইতে পারেন। তাহার নিকট ডাইরেক্টরেরা ১০০০ এক হাজার টাকার উপযুক্ত জামিন পত্র লেখাইয়া লন।

(৭) মহরী রাখা অনাবশ্যক। পূর্ব নিযুক্ত মহরী নুতন নিযুক্তায় সেক্রেটারী স্বীয় পদ গ্রহণ করা মাত্র তাহাকে চার্জ দিয়া অবসর হন।

(৮) কোম্পানীর নিয়মাবলীর দুই ধারার ২য় পংক্তির “প্রত্যেকের” শব্দের পবে “প্রতি অংশের জন্য” এই শব্দ ও ৩য় পংক্তির “টাকা” শব্দের পরে “দেন” শব্দের পরিবর্তে “দেয়” শব্দ ও ষষ্ঠ পংক্তির “দুই আনা” স্থানে “চারি আনা” এবং ১৬।১৭ ধারার কাঠিগ্‌ ভাব দূরীকৃত করা ও ৪৭ ধারার ডাইরেক্টরদিগের পারিশ্রমিকের হারের কোন অংশ সংশোধন করা উচিত কিনা, এই সম্বন্ধে আগামী সভায় বিবেচিত হইবে।

স্বাঃ শ্রীজয়চন্দ্র সাহালা

সভাপতি

জলপাইগুড়ী ‘সি’ কোম্পানী লিমিটেড
ডাইরেক্টরদিগের নির্দ্ধারণ

উপস্থিত

বাবু মহিমাচন্দ্র ঘোষ

বাবু গোপাল চন্দ্র ঘোষ

বাবু জয়চন্দ্র সাহালা

বাবু হরিশচন্দ্র অধিকারী

বাবু যাদব চন্দ্র চক্রবর্তী

নির্দ্ধারণ

১। অঙ্ককার অধিবেশিত ডাইরেক্টর সভার সর্বসম্মতিক্রমে শ্রীযুক্ত বাবু জয়চন্দ্র সাহালাকে ডাইরেক্টর সভার সভাপতির পদে বরণ করা গেল এবং তিনি আগামী জুলাই মাসের বাৎসরিক সাধারণ সভার তারিখ তক উক্ত সভাপতির কার্য করণের ভার নির্দ্ধাহ করিবেন।

২। প্রত্যেক সভায় অন্ততঃ তিনজন ডাইরেক্টর উপস্থিত থাকিলেই ডাইরেক্টর সভার কার্য সম্পাদিত হইতে পারিবে।

৩। ডাইরেক্টর সভার সভ্যগণের সর্বসম্মতিক্রমে সেক্রেটারী আফিসের জন্ম শ্রীযুক্ত বাবু আনন্দ চন্দ্র চক্রবর্তীকে মহরের ও ইংরেজী কুলির খাপরক্ষিক চাপরাশি নিয়োগ করা গেল। কথিত মহরের মাসিক ১০৮ দশ টাকা ও চাপরাশি মাসিক ১৮ এক টাকা বেতন পাইবেন ও তাহারা ২য় বন্দোবস্ত না হওয়া তক তাহাদের আপন আপন কর্তব্য কর্ম সম্পাদন করিবেন।

৪। বর্ষা অষ্টেই চা বাগানে আবাদের কার্য আরম্ভ করিতে হইবেক তজ্জন্ম চা বাগানের ও অন্তর ব্যয়ের আয়োজন ও উচিত নামায় কুলী সংগ্রহ করার বন্দোবস্ত করা আবশ্যিক ও প্রার্থিত ভূমির অষ্টমাংশের একাংশ দখল লইয়া কুলিদিগের থাকিবার ঘর, ম্যানেজারের বাংলা ও আফিস ইত্যাদি উচিত নামায় প্রস্তুত করা আবশ্যিক এজন্ম ডাইরেক্টর সভার সর্বসম্মতিক্রমে নিম্নলিখিত ব্যবস্থা করা গেল।

(ক) ডাইরেক্টরেরা জুন মাসের ১৫ তারিখের পূর্বে প্রার্থিত ভূমির অষ্টমাংশের একাংশ ভূমিতে দখলের জন্ম ডিপুটি কমিশনার সাহেবের নিকট প্রার্থনা করিবেন।

(খ) চা বীজ এবং অস্ত্রশস্ত্রাদি যাহা স্থানান্তর হইতে আনয়ন করিতে হইবে তাহার এন্টিমেট সেক্রেটারী আগামী সভাতে উপস্থিত করিবেন ও ইতিমধ্যে তৎসম্মন্ধে যে সমুদয় বন্দোবস্ত ও চিঠি পত্রাদি স্থানান্তরে লেখা প্রয়োজন বোধ করেন তাহার যোগাড় তিনি করিতে থাকেন।

৫। অধিকাংশ অংশীদারদের মতামুসারে ইতিপূর্বে মিঃ লুকাশ সাহেবের মাসিক পারিবারিক ২০৮ টাকা অবধারিতে কোম্পানীর পক্ষে কার্য করণ জন্ম নিয়োগ করা হইয়াছিল। এখন ডাইরেক্টর সভার সভ্যগণের মতামুসারে রোতিমত ম্যানেজার নিয়োগ না হওয়া তক ও বাগানের কার্য আরম্ভের পূর্বাতক উক্ত সাহেবকে কথিত বন্দোবস্ত কার্যের জন্ম নিযুক্ত রাখা গেল।

৬। অত্কার অধিবেশিত সভা সর্বসম্মতিক্রমে আগামী রবিবার পর্যন্ত মূলতুবী রাখা গেল। ইতি

তারিখ—৪ জুন, ১৮৭২ ইং

স্বাঃ শ্রীজয়চন্দ্র সান্যাল

সভাপতি

বিগত ৪ঠা জুন তারিখের মূলতুবী রাখার কার্য অত্র আরম্ভ হইল।

তাং ১৫ই জুন ১৮৭২ ইং—

উপস্থিত ডাইরেক্টরগণ

শ্রীযুক্ত বাবু জয়চন্দ্র সান্যাল—সভাপতি

” ” যাদবচন্দ্র চক্রবর্তী

” ” হরিশ্চন্দ্র অধিকারী

” ” গোপাল চন্দ্র ঘোষ

” ” মহিমাচন্দ্র ঘোষ

ডাইরেক্টরগণ

নির্দ্ধারণ

১। নিম্নলিখিত এন্টিমেট বর্তমান বৎসরের জন্ম অর্থাৎ আগামী ১৮৮০ সনের মার্চ মাস পর্যন্ত স্থিরীকৃত হইল—

চায়ের বীজ ৫০/০ মণ, ফি মণ ৬২৮ হিসাবে—৩১০০৮
কুলীর বেতন গড়ে ২০০ কুলীর কাত ৬ মাকা—৬৩০০৮
কুলীর দফাদার ৮ জনের কাত ১ জন ৮৮ ২ জন ৭৮
৫৫ জন ৬৮ হিঃ ৩১২৮
৯৭১২৮

ম্যানেজারের বেতন ৫০৮ হইতে

৭৫৮ পর্যন্ত মাসিক হারে—৪৫০৮

মুনসী বেতন ১৫৮ হইতে ২৫৮ ১৫০৮
সরদার, ফি কুলী ৫৫ পয়সা হিসাবে ৫৬২১০
কোদাল ২২৫ থানা (৪ ও ৫নং) ২২৫৮
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ম্যানেজার ও মুনসীর অবস্থিতির ঘর প্রস্তুতির

খরচের জন্ম ১৫০৮

ঐষদি সর্প প্রকার

২০০৮

কন্টিনজেন্ট এবং হবি এক প্রকারের আবশ্যকীয়

ব্যয়ের জন্ম ১০০০৮

১২,৭৭২৮

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২। উপরের লিখিত এন্ট্রিমেটের ১৩৮১৪৮ টাকা স্থলে ১৪০০০৮ টাকা বরিসা ইহার মধ্যে চইতে থাকা টাকা বাদ দিলে ১১০০০৮ হাজার টাকা বর্তমান বৎসরের জ্ঞাত প্রয়োজন হয় এই টাকা দুই কিস্তিতে তলব করা আবশ্যিক তাহার প্রথম কিস্তি আগামী আগষ্ট মাসের ১৫ই তারিখের মধ্যে আদায় করিবার জ্ঞাত অংশীগণের নিকট প্রতি অংশেব জ্ঞাত ২৫৮ টাকা হিসাবে সেক্রেটারী তলব করিবেন।

৩। কোম্পানীর তহবিলের টাকা অথ বন্দোবস্ত না হওয়া পর্যন্ত জলপাইগুড়ীস্থ বাজানে শ্রীযুক্ত বাবু জানকী নাথ বিশ্বাস, জয়চন্দ্র সান্যাল, গোপাল চন্দ্র ঘোষ, শরচ্চন্দ্র রায় ও চন্দ্র কান্ত সরকারের, যে কাববারের দোকান আছে তথায় আমানত রাখা হইবে। উক্ত দোকানদারগণ আমানতি টাকার উপর শতকরা মাসিক ১৮ এক টাকা হিসাবে সুদ দিতে স্বীকৃত হইয়া এগ্রিমেন্ট দিতে সম্মত

হওয়ায় ও কোম্পানীর আবশ্যিক মত ৫০০০৮ হাজার টাকা পর্যন্ত উপরের লিখিত শতকরা মাসিক ১৮ টাকা হারে সুদে কর্তব্য দিতে সম্মত হইবার নির্দ্ধারণ হইল যে রীতিমত এগ্রিমেন্ট লিখিয়া দিলে কোম্পানীর তহবিলের টাকা উক্ত দোকানে আমানত রাখা যাইবে।

৪। উপরোক্ত নিয়মসমূহে ডাইরেক্টরগণ সকলে সম্মত হইলেন ইতি

স্বাঃ শ্রীজয়চন্দ্র সান্যাল।

সভাপতি

৩রা জুলাই, ১৮৭৯ ইং

উপস্থিত

জয়চন্দ্র সান্যাল

গোপাল চন্দ্র ঘোষ

মহিমাচন্দ্র ঘোষ

ডাইরেক্টরগণ

হরিশ্চন্দ্র অধিকারী

যাদব চন্দ্র চক্রবর্তী

অদ্যকার ডাইরেক্টর সভার অধিকাংশের নির্দ্ধারিত মতে স্থির হইল যে পূর্ক কমিটির নির্দ্ধারিত মতে টা কোম্পানীর তহবিলের টাকা জয়চন্দ্র সান্যাল প্রভৃতির কাববারী দোকানে আমানত থাকার কথা স্থির হইয়াছিল কিন্তু কোম্পানীর নিয়মাবলীর ৫১ ধারার বর্ণিত বিধানানুসারে ঐ টাকা তাহাদেব দোকানে আমানত সম্বন্ধে সন্দেহ হওয়ায় তাহা আগামী সাধারণ কমিটিতে মীমাংসার জ্ঞাত স্থগিত থাকিল। ইতি

তারিখ—৩ জুলাই } স্বাঃ শ্রীজয়চন্দ্র সান্যাল।

১৮৭৯ ইং

সভাপতি

Sunder's description of the tea industry is reprinted elsewhere in this volume as an appendix. Since then the method of cultivation of tea has undergone many changes and J. F. Gruning's account of the tea industry, published in the *Jalpaiguri Gazetteer*, is also reprinted as an appendix in this volume, as illustrating the state of the tea industry in 1910. The present method of manufacture of tea does not differ substantially from the method described by Gruning, but various new methods in regard to the planting of tea, the tending of bushes, the selection of varieties, picking of leaves, the regulation of flushing seasons, the drying and rolling of tea, the mode of packing and marketing have been evolved in the course of the last forty years. There are excellent publications of the Indian Tea Association on how the tea industry is run in the garden. The weekly journal *Capital* brought out a special supplement on tea in 1952 and the daily paper *The Statesman* brought about another valuable supplement on tea in June, 1953. It is unnecessary to summarise all too briefly the various methods of making tea.

All tea gardens hold their lease from the Government, and their leases are governed by a special form of agreement. The rules are laid down in the Bengal Waste Lands Manual, 1936, Pt. II, Ch. V, on tea leases. Along with these tea leases are settled the right to graze cattle, the right to build factories and labour colonies, the right to grow plantations and forests and the right to cultivate. The Government, however, reserves the right to resume any leases granted to any Company.

In 1952 the tea industry suffered from an unprecedented slump. In the beginning of 1952 various allegations were made that the quality of Indian tea had been allowed to deteriorate. The Corporation of Calcutta decided to prosecute certain tea dealers for the alleged adulteration of tea with tea stalks. The allegation that Indian tea was adulterated with stalk and dust was publicised very widely all over the world. Simultaneously there were reports of bad packing of Indian tea and the bad quality of tea chests intended for export. Tea prices also fell in London on account of the abolition by the U.K. Government of a subsidy of 1s/- per lb on tea, with effect from March, 1952. In the meantime, the tea gardens had made heavy investments in new machinery and had inducted more labour than was apparently required. The expenses of the tea gardens increased, and with the return of more or less normal conditions in the world trade, tea turned from a sellers' market to a buyers' market. In the meantime, it is a fact that during the Second World War, tea gardens had been generally neglected and especially the tending of tea bushes. Recently the Government of India recognising the great value of tea to its finance, has extended a great deal of financial help to tea gardens after the Reserve Bank of

India had completed a detailed investigation of the financial condition of tea gardens. It is expected that tea will slightly improve in the coming years.

In 1947-8, the Government of the State carried out an investigation into the living condition of plantation workers in Jalpaiguri district. The enquiry was started in the first week of June 1947 and completed in the last week of April 1948. The report was published in 1951 over the signature of the Labour Commissioner, West Bengal. The following is a summary of findings of the enquiry.

The basic data formulated by the Inquiry were as follows :—

(i) Size of the Family—			
Adult—			
Male	..	..	1.259
Female	..	..	1.162
Children between 12-18—			
Male	..	..	0.321
Female	..	..	0.362
Children below 12 years—			
Male	..	..	0.681
Female	..	..	0.651
(ii) Size of the family in adult—			
Consumption unit	..	..	3.667
(iii) Size of the earners—			
Adult—			
Male	..	..	1.153
Female	..	..	0.946
Children between 12-18—			
Male	..	..	0.278
Female	..	..	0.337
Children below 12 years—			
Male	..	..	0.107
Female	..	..	0.105
(iv) Average income per family/week in rupees—			
(a) Cash	..	..	10.181
(b) Other sources	..	..	9.434
(v) Average expenditure per family/week in rupees—			
(a) Food	..	..	12.650
(b) Fuel and lighting	..	..	1.806
(c) Clothing	..	..	1.285
(d) Household requisites	..	..	0.173
(e) Conventional necessities	..	..	1.057
(f) Miscellaneous	..	..	1.002
(vi) Average attendance per week of 7 days—			
(a) Men	..	..	5.37
(b) Women	..	..	4.14
(c) Boys	..	..	5.14
(d) Girls	..	..	5.06
(vii) Average consumption per day per adult—			
Consumption of food in ounces			
(a) Cereals	..	..	20.8
(b) Pulses	..	..	3.00
(c) Vegetables	..	Rs.	0.0-7
(d) Milk	..	..	0.40
(e) Sugar and Gur	..	..	0.56
(f) Oils and fats	..	..	0.46
(g) Fruits	..	..	Nil
(h) Fish and meat	..	..	0.59
(i) Other food	..	Rs.	0.0-2
(j) Salt and spices	..	Rs.	0.0-3

No detail of consumption was, however, available of vegetables, other food and salt and spices. Expenditure on these items have, therefore, been included in amounts spent on them.

It was found that quite a large proportion of the inmates of the family including females and children were employed in plantations and this proportion of female and tender-aged children exceeded in many cases the proportion of females and children workers employed in factories in general. This was also revealed in the enquiry of the committee under Mr. Rege as also in another enquiry conducted by the Labour Bureau, Government of India (Sri Deshpande's Report). The point that the Inquiry considered, particularly in view of the cash contributions of females and children to the total family income which went to the extent of 27.7 per cent. and 20.4 per cent., respectively, was whether it should take into view the wages and earnings of females and children in all age groups in calculating the minimum wages or would make some adjustment in the light of the existing system of work on the plantations and in view of the national economic level as it stood at the moment.

There was no doubt that the economic condition and general standard of living were appreciably low in the plantations, still it was not uncommon in other industries as well, and even in agriculture female members in families contribute substantially to the family income and even children contribute their mite by helping their parents at work in some way or other. Besides it was noticed that the contribution of females were as high as 27.7 per cent. of the total cash earnings of the family. It would not be justified in the existing circumstances to do away with the employment of females particularly when it was not possible to find out alternative employment for these females who were good workers.

As regards children below the age of 12 years whose contribution was 3.3 per cent. of the total cash income of the family, it was decided at the Tripartite Conference on Plantations to discontinue the employment of such children in the tea estates. The earnings of these children must not, therefore, be taken into account though it was imperative to find out equivalent amount in the total family income in some other way. This argument did not hold good in the case of children between the ages 12 and 18 years. It has been calculated that boys and girls in this age group contribute as much as 17.1 per cent. and have got an earning capacity of 6 of that of an adult male which was taken as the unit.

The average attendance per year was found to be as follows :

			Days
Adult male	..	..	280
Adult female	..	..	259
<i>Children (all age groups)</i>			
Boys	..	..	267
Girls	..	..	270

The above figures, however, do not reveal in any way the extent of absenteeism in tea plantations.

Out of 365 days in a year, excluding the weekly holidays and 4 general festival holidays as allowed in the plantations, the total number of working days in a year comes to 309. While admitting that the rate of absenteeism in plantations is higher than that in factories due to sickness, private cultivation, collection of firewood and also due to absence caused by drinking habits, etc. the number of days that an adult male worker is expected to work in a year comes to 295 days and an adult female 250 days.

As regards boys and girls between the ages 12 and 18 years it may be taken that their attendance will be the same as male adults and female adults, respectively. Now taking all these factors into consideration the earning strength of the family comes as follows, following the method adopted in Sri Deshpande's report :

Adult males

Number of working days in a year .. 309
 Number of days he is expected to work 295
 Therefore 1.153 adult male earners in a family working for 295 days each will be equal to 1.100 working for 309 days.

Adult females

Number of working days in a year .. 309
 Number of working days she is expected to work .. 250
 Therefore 946 adult females working for 250 days will be equivalent to 0.765 working for 309 days

Children (12 to 18 years)

Number of children in this age group is as follows :

Boys	..	..	0.278
Girls	..	..	0.337

If the boys are expected to work as adult males boys working for 295 days will be equivalent to 0.265 boys working for 309 days.

Secondly the girls if expected to work as the adult females then 0.337 girls working 250 days will be equivalent to 0.237 girls working for 309 days.

The earning strength of the family comes, therefore as follows:—

Adult male	1.100
Adult female	0.765
Boys	0.265
Girls	0.273
	2.403

The following table gives a summary of the expenditure of in broad groups with corresponding percentages to total expenditure and also expenditure *per capita* in those groups :

Groups	Expen- diture (in rupees)	Perccn- tage to total	Expen- diture per adult consump- tion unit
	Rs.		Rs.
(1) Food ..	12.650	70.38	3.45
(2) Fire and li- ght ..	1.806	10.05	0.49
(3) Clothing ..	1.285	7.15	0.35
(4) Household requisites	0.173	0.96	0.05
(5) Conventional necessities	1.057	5.88	0.29
(6) Miscellane- ous	1.002	5.58	0.27
Total	17.973	100.00	4.90

The average size of the family in terms of adult consumption units is 3.667.

The following are the ounce and caloric recommendations of a balanced diet by three authorities :

	Nutrition Advisory Committee	Bombay plan	Dr. Akroyd
	(1)	(2)	(3)
Cereals ..	14	16	15
Pulses ..	3	3	3
Green leafy vege- tables ..	4		10
Root vegetables ..	3		
Other vegetables	3		
Milk	10		
Sugar and Jag- gery	2	2	
Oils and fats ..	2	1.5	2
Fruits	3	2.3	2
Fish and meat ..	3	2.3	
Egg	1		
Calories per day	1,833	2,746	2,630

As a comparison to any of the above recommendations the actual average ounce intake of plantation workers in Dooars (Jalpaiguri) are given below in ounces :

Cereals-			
(i) Rice and paddy ..	..	..	20.04
(ii) Maize .. ..	..	..	0.30
(iii) Marua .. ..	..	..	0.03
(iv) Chira and Muri ..	..	..	0.46
Total ..			20.83

Pulses—		
(i) Moong ..	..	0.03
(ii) Masur ..	..	0.23
(iii) Chana ..	..	0.76
(iv) Kalai ..	..	1.98
Total ..		3.02

Milk—		
Sugar and gur ..	..	0.40
Oils and fats ..	..	0.56
Fish and Meat—		
(i) Fish ..	..	0.30
(ii) Beef ..	..	0.03
(iii) Mutton and pork ..	..	0.26
Total ..		0.59

Fruits ..	Nil
Eggs ..	Nil

In respect of vegetables whether leafy or non-leafy or root vegetables which forms one of the most important items of food of a working class family in the plantations, no data on quantity consumed are available as the expenditure incurred by the family on account of vegetables are given in values and not in quantity they purchased. The average expenditure on vegetable per adult consumption unit per day as computed from was Rs. .036 or 7 pies.

The cost of a balanced diet per day as given in the scales above came to Rs. 0-15-9, 0-13-9, 0-11-8, respectively, for 1, 2 and 3 on the basis of average prices for the calendar year 1947 in the Dooars area. The total expenditure on a balanced diet for a family of average size should therefore be Rs. 3-9-9, Rs. 3-2-5 and Rs. 2-10-9 per day or Rs. 25-4-3, Rs. 22-0-1 and Rs. 18-11-3 per week.

The calorific value of the average diet that is now consumed by an adult consumption unit as given above has not been calculated. It may be found on analysis that the total quantity of calories derived from the food items consumed per day as at present yields the required quantity of calories, say 3,000, which may be adequate for moderate manual work as is done in plantations, but may be inadequate from the nutritional point of view as mere calories are not indicative of a balanced or proper diet.

After much deliberation the following charges in the quantities of items of diet were proposed.

Items	Present diet per day		Proposed diet per day	
	Quantity	Cost Rs.	Quantity	Cost Rs.
Cereals ..	20.83	0.284	20.82	0.284
Pulses ..	3.00	0.054	3.00	0.054
Vegetables ..	..	0.036	6.00	0.078
Milk ..	0.40	0.009	..	..
Sugar and Jaggery	0.56	0.014	1 50	0.038
Oils and fats ..	0.46	0.031	1 50	0.101
Fruits ..	Nil	..	..	..
Fish and meat ..	0.59	0.038	0.58	0.038
Eggs ..	..	0.010	..	0.010
Other food, salt and spices	..	0.017	..	0.017
Total	..	0.493	..	0.620
		0-7-10		0-9-11

This makes the cost of the proposed diet amount to 0-9-11 per day against the existing cost of 0-7-10 per day. The weekly cost of the family consisting of 3,667 members in adult consumption units therefore ought to be Rs. 15-14-8.

In fuel and lighting group no further increment was called for or recommended.

Clothing was definitely below standard. The current expenditure of the family on clothing was Rs. 1.285 per week.

In other groups of household requisites and conventional necessities where the expenditure are Rs. 0.173 and Rs. 1.057, respectively, no further increment was called for.

The miscellaneous group where the average weekly expenditure was approximately Rs. 1-0-0 and accounted for 5.575 per cent. of the total expenditure of the family did not deserve any increment. Out of every rupee in this group Re. 0-12-8 was spent on intoxicants alone which accounted for 79.1 per cent. of the expenditure in the miscellaneous group. Briefly, the requirements of the family per week was therefore as follows :

	Rs.	a.	p.
I Food	15	14	8
II Fuel and light	1	12	11
III Clothing	1	4	7
IV Household requisites	0	2	9
V Conventional necessities	1	0	11
VI Miscellaneous	1	0	0
Total ..	21	3	10

The family makes an income of Rs. 1.225 from land, cattle, poultry, and clothing subsidy. The amount then required by the family of 2,403 earners is Rs. 19-15-10 per week or Rs. 2.856 per day. Each earner was required to earn Rs. 1.189 or Rs. 1-3-0 per day out of which he got Re.0-5-5 per day in the form of money value of food concession given by the employers. His daily requirement were Re. 0-13-7 per day.

Converting the earning of workers on the same basis of attendance as that of men the earning capacity of men, women, and boys and girls between 12 and 18 years were as follows :

Men	1 00
Women	0 70
Boys	0 65
Girls	0 65

On the above basis the daily rate of earning of adult women, boys and girls should be as follows :

	Rs.	a.	p.
Women	1	2	10
Boys	1	1	6
Girls	1	1	6

These rates were, however, inclusive of the average money value of food concessions given by employers which amounted to 0-5-5 per earner per day. The daily rate of wages was therefore assessed, after deducting the money value of the food concession and rounding the figures to the nearest anna, as follows :

	Rs.	a.	p.
Men	1	5	0
Women	0	13	0
Boys	0	12	0
Girls	0	12	0

The following table gives much interesting information on the consumption of various items of food. Column 2 shows the number of families who reported consumption of the particular item and column 3 the total quantity in seers consumed

by them. Column 4 shows quantity consumed per family on the basis of the number of families reporting while the remaining columns show the rate of consumption in relation to the total number of 2,506 families analysed.

Commodities	Number of families reported	Quantity consumed in seers	Quantity consumed in seers				Quantity consumed per adult consumption unit per day in a.s.
			By each family	Per family per week	Per adult consumption unit per week	Per adult consumption unit per day	
1	2	3	4	5	6	7	8
Rice	1,044	13,106.571	12.554	15.662	4.260	0.609	20.043
Paddy	1,636	41,666.691	25.469	0.227	0.062	0.009	0.296
Bhutta	232	569.088	2.453	0.010	0.003	0.000	..
Atta	8	24.250	3.031	0.031	0.008	0.001	0.033
Marua	74	76.614	1.035	0.365	0.100	0.014	0.461
Chira or Muri	998	915.936	0.918	..	..	..	..
Other cereals . . . . .	..	..	..	..	..	..	..
Arhar	8	7.750	0.969	0.003	0.001	0.000	..
Moong	14	39.750	2.839	0.016	0.004	0.001	0.033
Musur	329	449.189	1.365	0.179	0.049	0.007	0.230
Chana	864	1,453.050	1.682	0.580	0.158	0.023	0.757
Kalai	2,207	3,839.800	1.740	1.532	0.418	0.060	1.975
Fish	910	581.375	0.639	0.232	0.063	0.009	0.296
Dried fish	59	28.875	0.489	0.012	0.003	0.000	..
Beef	114	95.875	0.841	0.038	0.010	0.001	0.033
Mutton	447	304.525	0.681	0.122	0.033	0.005	0.165
Pork or others	201	161.750	0.805	0.065	0.018	0.003	0.099
Mustard oil	2,355	916.736	0.389	0.366	0.100	0.014	0.461
Other cooking medium . . . . .	..	..	..	..	..	..	..
Milk	220	764.462	3.475	0.305	0.083	0.012	0.395
Curd	6	6.500	1.083	0.003	0.001	0.000	..
Butter	24	5.812	0.242	0.002	0.001	0.000	..
Ghee	37	8.875	0.240	0.004	0.001	0.000	..
Gur	1,925	1,092.038	0.567	0.436	0.119	0.017	0.560
Other Sugar	14	8.214	0.587	0.003	0.001	0.000	..

It will be seen from the table above that there is practically no consumption of atta in the cereal group. The only important item in the group after rice and paddy is *chira* or *muri*. In the pulses group as many as 2,207 families out of a total of 2,506 have reported consumption of "kalai" dal and the next item in order of importance is "chana" which was consumed by 864 families.

Fish was consumed by 910 families while the consumption of meat was small.

Consumption of milk was reported by only 220 families and that of other milk products, such as "curd", "ghee", etc., was practically nil.

As regards sugar and gur it will be observed that gur was consumed by as many as 1,925 families out of a total of 2,506. Sugar is not

consumed by any family, which is possibly due to scarcity and also probably due to preference for gur to sugar.

In March 1950, the Government appointed a Committee called the Minimum Wages (Tea Plantations) Committee, West Bengal. The Committee held its first meeting on the 22nd May 1950 and submitted their report on the 22nd February 1951. The report was published by the State Government in 1952. A summary of their recommendations is reproduced below, which will also illustrate the condition of tea garden labour in the district.

The following were recommended as the minimum daily rates of basic wages and cost of living allowance payable to manual workers employed in tea estates in Dooars and Terai :—

In the Garden

	Hazira	Doubli	Cost of living allowance	Total
	As.	As.	As	Rs. a.
Male adult ..	6	6	7	1 3
Female adult and adolescent ..	5	5	7	1 1
Employable child	3	3	4	0 10

In the Factory

	Basic rate	Cost of living allowance	Total
	As.	As.	Rs. a.
Male adult ..	12	7	1 3
Female adult and adoles- cent ..	10	7	1 1
Employable child ..	6	4	0 10

In respect of the above recommendations the Committee further recommended as follows :

- (a) "The above constitutes wages for a full day's work of 5 to 8 hours. If any worker completes only one task, viz., 'hazira', and refuses to do the 'doubli', he should receive only 5 as. cost of living allowance in addition to his 'hazira' wage.
- (b) If on the other hand the employer is unable, consistently with the existing practice, to offer to all or to any section of the workers, during the period from 1st December to 31st March, more than one 'hazira' of work, the worker should receive the full cost of living allowance in addition to his or her 'hazira' wage.
- (c) In all cases the supply of food materials at concession rates will remain unaffected.
- (d) The Committee recommends that effect be given to (b) above by the prescription of an appropriate rule under section 30(2) (h) of the Minimum Wages Act in terms of proviso (ii) to section 15 of the Act."

The Committee recommended that the number of hours for a normal working day for a manual worker in the tea estates in all the areas of Dooars, Terai and Darjeeling, so far as work in the factory was concerned, should be in accordance with the provisions of the Factories Act of 1948. No adult worker should be required or allowed to work in a factory for more than 9

hours in any day or 48 hours in any week, the number of hours of work being normally up to 8 hours. While the number of hours for a normal working day for manual work in the garden cannot be rigidly fixed, the maximum limit of the number of working hours, excluding overtime, in the garden, in all the areas, should be fixed at 8 hours a day for adults and adolescents, with suitable modifications in the case of employable children. There should be a weekly day of rest, local custom determining the choice of the day (section 13 of the Minimum Wages Act).

Overtime work for the manual worker beyond the maximum limit of 8 hours in the garden in all areas should be paid at double the ordinary rates of basic wages and cost of living allowance, and overtime work for the manual worker in the factory in all areas should be paid at double rates in accordance with section 50 of the Factories Act (section 14 of the Minimum Wages Act).

It was not practicable for the Committee to fix the size of the task in the different occupations of piece work or to fix the minimum rate of wages for piece work relating to the different varieties or garden work, but it recommended that it should be seen that minimum rates of wages for piece work are settled in such a way that a normally diligent piece worker would be able to earn not less than the minimum time rate.

So far as clerical employees were concerned, the minimum monthly wages should be fixed on the following lines, on the basis that the existing system of supply of foodstuffs at concession rates would be continued:

Dooars and Terai

	Basic rate per month	Cost of living allowance per month	Total per month
	Rs.	Rs.	Rs.
Non-Matriculate	50	20	70
Matriculate	55	20	75

The number of hours for a normal working day in respect of clerical employees in all the areas should be up to 8 hours with a suitable interval of rest consistently with the existing practice:

So far as clerical employees in all the areas were concerned overtime work beyond the maximum limit of 8 hours per day should be paid at double the ordinary rates of basic wages and cost of living allowance.

In the absence of cost of living index numbers ascertained and declared by the competent authority by notification in the official Gazette in respect of the areas of Dooars, Terai and Darjeeling, the Committee were of the opinion that it was unable at this stage to make any recommendation regarding the intervals at which and the manner in which the cost of living allowance was to be adjusted in future to accord as nearly as practicable with the variations in the cost of living index numbers applicable to the manual workers and the clerical employees concerned [section 4 (1) (i) of the Minimum Wages Act].

FORESTS

General description—The forests of the Jalpaiguri district are numerous and valuable and cover an even larger area (662 square miles) than those of the adjoining district of Darjeeling (487 square miles). In addition to the reserved forests, which are situated entirely in the Western Duars between the Tista and Sankos rivers, there is a large forest measuring 77 square miles, west of the Tista, which belongs to the Raikuts of Baikunthapur. All the forests are plains forests, with the exception of about 45 square miles in the vicinity of Buxa which occupy hilly ground rising rapidly from 500 to 4,000 feet. The principal timber tree, the importance of which is so great that the working of all reserved forests is directed among other aims towards obtaining a maximum quantity of mature timber from it, is *sal* (*Shorea robusta*); in some parts it grows nearly pure, but it is more often mixed with a large number of other species. The great difficulty experienced in dealing with the forests is to ensure natural reproduction of *sal* and at the same time to protect the forests from fire. The Baikunthapur forests, which received little attention from its owners and was until recently burnt through every year to ensure good grazing for cattle and buffaloes, contains hardly a tree which is not twisted and blackened by fire; at the same time this repeated burning has destroyed the soft wood trees and dense herbaceous undergrowth which spring up faster than *sal* and choke and kill the young trees, so that the natural reproduction is excellent and young *sal* plants abound in every direction. In the Government forests, on the other hand, the work of fire-protection has been carried out carefully, with the result that though the larger trees were preserved, the dense undergrowth tended as a result to interfere with the growth of young plants, and natural production was not as satisfactory as could be expected. In the matter of new plantations no very satisfactory work was done up to the beginning of the present century. Extraction was poor and although the forests were some of the richest that one could wish for in India, there was lack of supervision and much theft. As a result forest revenues dropped steadily up to about 1910. The alarming way in

which revenues fell up to this period has been described by both D. H. E. Sunder and J. A. Milligan in their settlement reports of 1895 and 1919. But after 1911 a succession of very energetic Divisional Forest Officers, commencing with E. O. Shebbeare from November 1913, made a great effort to put matters right. Since 1913 there was a series of very well thought out working plans, the fifth and the last for the Jalpaiguri Forest Division being planned for 1942-1956 and for the Buxa Forest Division for 1945-1964. These working plans took account of every detail of the preservation, growth, increase of the forests, and evolved skilful plans designed to improve the forest revenue. The working plans are models how Government property should be looked after. They give a complete account of the forests, of the geological tracts, the forests, the method of utilisation, of their produce, staff and labour supply, and historic treatment of the past systems of management and statistics of growth and yield. In the working plan proper it lays down in very great detail the plan for clear-felling, selection, soft-wood working, fuel working, riverain working and the regulation of games and fisheries. It deals with establishment and labour and various administrative prescriptions. Under each section details are explained of the general constitution and character of the vegetation, of the silvicultural system, choice of species, the selection and exploitation of the sites and rotation of plantations, the probable yields of clear-felled areas, the consequences of clear-felling, the rules for conducting clear-felling, the methods of improving the felling yield. They also give a mass of miscellaneous instructions on dry felling, climber cutting in high forests, thinning in plantations, climber cutting in plantations and controlled burning. Every forest produce is taken care of, including bamboo, cane, thatch, grazing, fodder, other minor produce, forest roads and bridges, buildings and other forest property, rules to be observed to prevent fires, and maintenance of boundaries. Clear-felling is followed by new plantations, preceded by a careful selection of the species to be planted. Only as much area is clear-felled as it is possible to plant them anew in the next year or years. Otherwise matured timber is extracted individually and sold. There are regular programmes for climber-cutting and thinning. There are separate rules for the supply of firewood to tea estates, and others for permission to graze cattle in the reserved forests. Throughout the district the forests have green savannahs of grass. These grassy savannahs are a source of danger to the adjoining forests owing to their extreme inflammability, particularly when tortuous natural boundaries make it difficult to burn the outside grass, and near tea gardens when the Managers object to the early burning of grass on their grants. In addition to the reserved forests there are six square miles of Khas Mahal forests. All

the forests of the district are at present controlled by the Forest Department, the Baikunthapur forest being controlled under the Private Forests Act by the Divisional Forest Officer Jalpaiguri. The reserved forests of the district are divided for administrative purposes into three divisions, the Jalpaiguri, Cooch Behar and Buxa Divisions, the headquarters, of which are at Jalpaiguri, Cooch Behar and Rajabhatkhawa. The forests of the Jalpaiguri Division lie between the Mahanadi and Torsa, of the Cooch Behar Division between Torsa and Kaljani, while those of the Buxa Division are situated east of the Kaljani river in the Alipur Duars subdivision.

The forests of the Jalpaiguri Division cover an area of 165 square miles, and are situated entirely in the plains at the foot of the Bhutan hills. Besides the Baikunthapur forests, they are divided into five ranges, Apalchand, Upper Tonde, Lower Tonde, Daina and Moraghat, and consists of blocks, the names and areas of which are given below :

RANGE	BLOCK	Area of Block (acres)	
I PRIVATE FORESTS			
Baikunthapur	Sarogara Sikarpur	49,280	= 77 sq. miles
II RESERVED FORESTS			
A. Jalpaiguri Division			
Apalchand	Udlabari Sialduba Churabhija Apalchand Hanskhali Chel river Phuljhora Chengmari	2,264 1,456 1,290 2,105 3,024 1,586 3,083 1,368	
		16,176	
Upper Tonde	Sipchu Chapramari Udlajhora North Indong Khariarbandar Pangjhora Hillajhora Kakurjhora Selkapara Bhokolmardi Tonde Dhupjhora	1,573 2,741 3,731 1,353 821 4,655 3,114 1,316 2,044 2,275 2,906 1,158	
		27,687	
Lower Tonde	South Indong Gorumara Medlajhora Barahati Central Sursuti Bichabhanga Lataguri Khairanti	2,811 1,613 2,159 2,293 1,973 4,355 1,528 3,765 64	
		20,561	
		C/O	77 sq. miles

Daina	North Daina	3,283	B/F 77 sq. miles
	Central Daina	7,342	
	South Daina	5,230	
	Ramshai	3,804	
	Jaldhaka	3,091	
		22,750	
Moraghat	North Moraghat	1,333	
	Central Moraghat	5,290	
	South Moraghat	5,117	
	Gosaihat	1,876	
	Dalgaon	1,487	
	Rehti	3,483	
		18,586	
	Total	105,760	= 165 sq. miles
Khas Mahal Forests		3,840	= 6 sq. miles
B. Cooch Behar Division			
Madarihat	Dumchi	3,018	
	Khairbari	4,843	
	Titi	9,609	
		17,470	
Nilpara	Joygaon	4,578	
	Dalsingpara	5,049	
	Hasimara	4,216	
	Jaldapara	8,302	
	Rangamati	2,208	
	Barnabari	4,101	
	Godamdabri	3,880	
	Bhutri	3,841	
	Nilpara (Bhutri 6)	341	
		36,516	
Chilapata	Torsa	6,993	
	Salkumar	1,293	
	Malangi	3,162	
	Chilapata	4,944	
	Borodabri	5,978	
	Mendabari	4,383	
	Bania	6,835	
		33,588	
Cooch Behar	Pattakhawa	3,776	
	Garadhat	9,280	
	Scattered bits of forests all over the State	2,408	
		15,464	
	Total	103,038	= 161 sq. miles
C. Buxa Division			
Rajabhatkhawa	Dima	2,428	
	Nimati	5,879	
	North R.V.K.	12,935	
	South R.V.K.	13,063	
	Jainti	9,761	
	Phaskhawa	5,985	
		50,051	
Damanpur	Panbari	7,925	
	Gadadhar	3,529	
	Chiko	6,305	
	Damanpur	6,197	
	Poro	9,095	
		33,051	
		C/O	409 sq. miles

C. Buxa Division (concl'd.)

		B/F	409 sq. miles
Baksa Duar	Pana	3,271	
	Adma	6,222	
	Chunbhati	4,968	
	Tobgaon	7,817	
	Tashigaon	3,171	
	Santrabari	5,791	
	Raimatong	8,791	
		<hr/>	
		40,031	
		<hr/>	
	Total	123,133	=192 sq miles
Rydak	Hatipota	3,543	
	Bhutanghat	2,524	
	North Rydak	3,741	
	Central Rydak	4,900	
	South Rydak	5,666	
	Marakata	3,616	
	Narathali	3,292	
	Dawla	1,322	
		<hr/>	
		28,604	
Bholka	Newlands	2,116	
	Kumargram	2,556	
	Sankos	2,726	
	North Bholka	3,519	
	South Bholka	5,786	
		<hr/>	
		16,703	
		<hr/>	
	Total	168,440	=263 sq. miles
	Grand Total	864	sq. miles

The tree of overwhelming importance for timber in Jaipauri District is *sal* (*Shorea robusta*). Other timber trees which are fairly numerous are *chilauni* (*Schima wallichii*), *sissu* (*Dalbergia sissu*), *khair* (*Acacia catechu*), *kaingal* (*Bischofia javanica*), *malagiri* (*Cinnamomum cecidodaphne*) and *simul* (*Bombax malabaricum*); but few trees of large size belonging to these species, are to be found. The forests may be divided into four types, viz.:—*Sal* forest, Mixed, Evergreen, and Savannah; but these types merge into one another and are found in many places inextricably combined. The *sal* forest is in some parts nearly pure, with as many as 200 stems to the acre, but is more often mixed with varying proportions of other species, including *tatri* (*Dillenia pentagyna*), *udal* (*Sterculia villosa*), *saj* (*Terminalia tomentosa*), *kumbi* (*Careya arborea*), and *chilauni* (*Schima wallichii*).

In Apalchand, out of a total area of 16,176 acres of forest working, as much as 14,154 acres are *sal* circles, 1,368 acres for fuels and 654 acres for riverain working. In Upper Tondou, which contains the famous Chapramari game sanctuary, out of a total of 27,687 acres, 10,059 acres are worked under *sal*, 7,518 acres under soft wood, 7,930 acres under riverain working and 2,180 acres for working in game sanctuary. In Lower Tondou, which now contains the equally famous Garumara game sanctuary of 5

square miles, out of total of 20,561 acres as many as 19,432 acres are under *sal* working, and 1,129 reserved for the game sanctuary. Lower Tondou contains some of the noblest *sals* in India, the clear thick boles of *sal* trees attaining frequently the amazing height of 75 to 80 feet. The Daina range of 22,750 acres contains only 25 acres under *sal*, the remainder being under riverain working. Moraghat range has a total area of 18,586 acres, of which as much as 15,103 acres are under *sal*, 1,585 acres under soft wood and 1,898 acres under riverain working. North Moraghat block of this range contains some of the finest virgin *sal* forests. The north and south blocks of Moraghat have been systematically planted under *sal* for a very long time and great care is taken of the timber. The growth is fast and the cutting of climbers and thinning are carefully done.

In the Cooch Behar Forest Division, Madarihat range contains an area of 17,470 acres, of which 7,553 acres are under *sal* selection, 7,861 acres under soft wood and 2,056 acres under riverain work. The Nilpara range has a total area of 36,516 acres, and contains the famous Nilpara game sanctuary for the rhinoceros. The sanctuary spreads over an area of 8,316 acres. The area under *sal* conversion and long rotation are 2,305 acres and 8,779 acres respectively. The Chilapatha range has a total area of 33,558 acres, of which 10,547 acres and 6,767 acres are under *sal* conversion and short rotation respectively, while 16,274 acres are under game sanctuary. These three ranges comprise the Jalpaiguri section of the Cooch Behar Forest Division. This Division contains a small riverain tract on the Torsa in which the right of hunting and fishing rests exclusively in the Maharaja of Cooch Behar, according to the terms of the merger of Cooch Behar State into West Bengal.

In the Buxa forest division there are five ranges. The first, Rajabhatkhawa has an area of 50,051 acres, of which 32,941 and 4,390 acres are under *sal*, 5,928 acres under firewood, and 1,290 acres under riverain tract. Protection work is being carried on in 5,502 acres. In the Damanpur range the total area of 33,051 acres is made up of 2 kinds of work : 17,784 acres under *sal* conversion and 15,267 acres under short rotation. In the Buxa Duar Range a great deal of protective plantation has become necessary. Out of a total of 40,031 acres, 18,573 acres is under protective plantation, 9,328 acres under *sal* conversion, 8,750 acres under *sal* improvement and 2,784 acres under long rotation. The Raidak range has a total area of 28,604 acres, of which 16,871 acres are in riverain tracts, 1,156 acres are undeveloped, and 5,666 and 4,911 acres are under *sal* conversion and protection respectively. In the last range, namely, the Bholka range, out of a total of 16,703 acres, as many as 11,492 acres are still undeveloped, 618 acres are riverain and 4,593 acres under firewood.

The preservation of wild life, the prevention of fire, the protection of forests against climbers and dense undergrowths, the protection of river banks so that they do not burst their sides or divert their course, the wise disposal of fodder and thatching grass, are some of the subsidiary but important duties of the Forest Department. The Games Associations for the protection of wild life are doing good work and regular meetings of these Associations on the State level serves to keep this problem fresh in everybody's mind. On the other hand, it is necessary to appreciate the extensive damage that is often inflicted by wild animals on standing crop, tea gardens, human habitations, human and domestic animal life and even such things as boundary pillars. The elephant, the wild buffalo, the various families of deer, pig and other small animals, carry on regular depredations among standing crop, while the elephant often turned wild is frequently a menace both to life and property. The tiger not infrequently comes out of the forests and lifts cattle. The India-Bhutan boundary pillars are often sad preys to the inquisitiveness and disgust of wild animals.

It will be useful to reprint here a list of drugs, indigenous to the district, including mineral drugs, which W. W. Hunter recorded in his Statistical Account of Jalpaiguri in 1876.

Drugs indigenous to the district—Dhenus (*Abelmoschus esculentus*); kunch (*Abrus precatorius*); apang (*Achyranthes aspera*); bach (*Acorus calamus*); bel (*Aegle marmelos*); chireta (*Agathotes chirayta*); ghrita kumari (*Aloe indica*); kulhjan (*Alpinia galanga*); chatim (*Alstonia scholaris*); kalap-nath (*Andropogon paniculata*); khas khas (*Andropogon muricatum*); sialkanta (*Argemone mexicana*); nim (*Azadirachta indica*); dhak or palas (*Butea frondosa*); kat-karanja (*Caesalpinia bonducella*); bakam (*Caesalpinia sappan*); aklund (*Calatropis gigantea*); ganja (*Cannabis indica*); lanka marich (*Capiscum annum*); sonalu (*Cassia fistula*); mom or wax (*Cera flava*); bhant (*Clerodendron viscosum*); dhaniya (*Coriandrum sativum*); jaijal (*Croton tiglium*); mdrawan (*Cucumis pseudo-colocynthis*); katki (*Cucumis utilisissimus*); bagh bharengla (*Jatropha curcas*); haldi (*Curcuma longa*); ban-haldi (*Curcuma zedoaria*); mutha (*Cyperus hexastachylus*); dhutura (*Datura alba*); amla (*Embellica officinalis*); munsu sij (*Euphorbia ligularia*); jaistha madhu (*Glycyrrhiza glabra*); nil (*Indigofera tinctoria*); ajawan (*Ligustrum ajowan*); am (*Mangifera indica*); pudina (*Mentha sativa*); karela (*Momordica charantia*); sujina (*Moringa pterygosperma*); tamak (*Nicotiana tabacum*); saluk (*Nymphaea lotus*); amrul (*Oxalis corniculata*); bara ghakru (*Pedaliium murex*); pipul (*Piper longum*); raktachandan (*Pterocarpus santalinus*); anar (*Punica granatum*); erendi (*Ricinus communis*); jangli piyaj (*Urginea Indica*); til (*Sesamum orientale*); sada sarisha (*Sinapsis alba*); kala sarisha (*Sinapsis nigra*); tentul (*Tamarindus Indica*); haritaki (*Terminalia chebula*); methi (*Trigonella foenum-graecum*); adrakh (*Zinziber officinale*); buch (*Zinziber zerumbet*).

Drugs sold in the bazar—Babla (*Acacia arabica*); atis (*Aconitum heterophyllum*); jangli akrot (*Aleuroites triloba*); jawasi (*Alhagi maurorum*); ilachi (*Amomum cardamomum*); Hijli badam (*Anacardium occidentale*); akarkora (*Anthemis pyrethrum*); china badam (*Arachis hypogaea*); gochru (*Asteracantha longifolia*); kotilla (*Astragalus virus*); gugal (*Balsmodendron mukul*); mahua (*Bassia latifolia*);

resut (*Berberis lycium*); gandha berosa (*Boswellia thurifera*); jita (*Carum album*); lang (*Cinnamomum zeylanicum*); nebu (*Citrus, numerous varieties*); golancha (*Cocculus cordifolius*); narikel (*Cocos nucifera*); bihidana (*Cydonia vulgaris*); garjau tel (*Dipterocarpus laevis*); takhm balanga (*Dracocephalum royleanum*); chhota ilachi (*Elettaria cardamomum*); panmuri (*Foeniculum panmorium*); chaulmigra (*Gyho-cardia odorata*); kala kutki (*Helleborus nigra*); khorrassani ajawan (*Hyoscyamus niger*); kapur (*Laurus camphora*); halim (*Lapidium sativum*); tisi (*Linum usitatissimum*); jaiphal (*Myristica officinalis*); jatanansi (*Nardostachys jatamansi*); hing (*Narthex asafetida*); kala-jira (*Nigella sativa*); khet-papra (*Oldenlandia biflora*); salep misri (*Orchis mascula*); aphin (*Papaver somniferum*); kala-dana (*Pharbitis nil*); gandhaberoza (*Pinus longifolia*); kabab chini (*Piper cubeba*); kala-marich (*Piper nigrum*); majuphal (*Quercus infectoria*); riwan chini (*Rheum emodi*); manjit (*Rubia munjista*); rita (*Sapindus emarginatus*); bhalatak (*Semecarpus anacardium*); chaulnadi (*Sphaeranthus hirtus*); kuchila (*Strychnos nuxvomica*); beheyra (*Terminalia belerica*); palwal (*Trichosanthes dioica*); indrajab (*Wrightia anti-dysenterica*).

Mineral drugs—Phutkuri (alum); rasanjan (sulphate of mercury); sankha (arsenic); kharimati (chalk); tuta (sulphate of copper); hira-khas (sulphate of iron); raskapur (calomel); mirdan shankar (oxide of lead); sorali (nitrate of potash); tabasir (silicate of potash); sajimati (carbonate of soda); sohaga (bichorate of soda); gandhak (sulphur).

The Baikunthapur forest is situated on the Teesta river and forms a long narrow strip stretching from the boundary of the Darjeeling district to within a few miles of Jalpaiguri town. Buchanan Hamilton gives an account of this forest as the Woods of Batris Hazari of Baikunthapur, published as an appendix elsewhere in this volume. The working of this forest has been supervised by the Divisional Forest Officer, Jalpaiguri since 1905 with small intervals when the control went over to the Raikuts. The forest is divided into two ranges, the Sarogara range in the north and the Sikarpur range in the south. The total area, as already stated, is 77 square miles.

An alarming feature in the district is the turning over of erstwhile grazing lands to cultivation. As a consequence the forests are being encroached upon for fresh grazing, particularly, the riverain tracts the denudation of which is adding to the problems of river training and flood erosion. In recent years rivers have become more uncontrollable than before and frequently overtop their banks.

NATURAL CALAMITIES

The following is a brief chronological account of the natural calamities of the district. Recent years (1950 to 1952) have seen some disastrous floods. In 1950 a heavy flood in the river Tista broke out in the middle of June and partly inundated 56 mauzas under police stations Mainaguri and Mal, as also three Wards of Jalpaiguri Municipality. There was a considerable loss of homestead, movables and cattle. The number of families affected by the flood was, 4,135. 3,163

head of cattle died. About 25,460 maunds of foodgrains were lost and 1,171 houses were damaged. The standing crop of 592 acres of jute and 562 acres of *aus* were lost. Broadly speaking, the area affected by the flood was 60 square miles in extent, equally on either side of the river. A large valuable forest in the bed of the Tista was wiped away. In 1952 there was a heavy rainfall in Jalpaiguri and there were two floods, one in July and the other in September. The July flood caused 86 breaches in roads and railways including severe damage to as many as six bridges.

1900 to 1942 Nothing worth mentioning.

1943 Though Jalpaiguri district itself remained unaffected during the great famine of Bengal, its comparatively satisfactory position attracted many distressed people of its sister district Rangpur (now in East Pakistan) and it had to open one gruel kitchen and an F. R. F. Hospital for them.

1944 to 1949 No remarkable event.

1950 Devastating flood in river Tista in June 1950. It completely inundated 56 mauzas under Police Stations Mainaguri and Mal as also 3 Wards of Jalpaiguri Municipality. The havoc spread roughly over 30 sq. miles on either side of the river Tista and the damages were estimated as follows :

No. of families affected ..	4135
No. of persons affected ..	17779
No. of heads of cattle dead ..	3163
Foodgrains lost	25460 maunds
Standing jute lost	592 acres
Standing paddy lost ..	562 acres
No. of houses damaged ..	1171

Besides these, loss of several human lives were also reported.

OCCUPATIONS, MANUFACTURES AND TRADE

The rural density of Jalpaiguri district in 1951 was an average of 359 persons per square mile. Out of every 1,000 persons of the general population only as few as 487 persons are supported by agriculture. The proportion is lower only in 3 other districts of West Bengal, viz., Nadia, where the proportion is only 9 per 1,000 of population, Howrah, where the proportion is 314 and Darjeeling, where it is 321. How rapidly

the tea industry has made progress and has drawn immigrants from outside to swell the population, will be evident from the fact that in 1901 the rural density per square mile was 226 and the proportion of persons supported by agriculture was 747 per 1,000 of general population ; in 1911 the figures were 275 and 720 respectively. In 1921, they were 287 and 714 respectively. Tea in Jalpaiguri has made phenomenal progress since 1921. In 1951 roughly 21 per cent. of the population were supported by the cultivation of land owned (by *jot* cultivation or occupancy tenancy), 26 per cent. were supported by *barga* cultivation only 1.20 per cent. by agricultural labour, and 0.50 per cent. by rents received from land. The scarcity of agricultural labour indicates what demands the tea industry makes on any floating labour about in the area, and the important place the *adhiar* maintains in the district. 36 per cent. of the population is maintained by industry, of which the bulk is employed by tea. About 5 per cent. are supported by commerce, about 2 per cent. by transport, and about 8 per cent. by miscellaneous services and other sources. The proportion of the population supported by tea have already been mentioned elsewhere.

Manufactures : Tea—The most important industry in the district is the manufacture of tea. Tea was introduced into the Western Duars from the Darjeeling district, where the industry was first established as a commercial enterprise in 1856, and the gardens now extend throughout the north of the district between the Tista and Sankos rivers, wherever the land is not occupied by reserved forests or river-beds. The first garden started in the Darjeeling Tarai was opened out in 1862 at Champita, near Khaprail, by Mr. James White, who had previously planted out the Singel estate near Kurseong, and by the end of 1866 several other gardens had been opened out in the Tarai. Between 1866 and 1874 the number of tea gardens in the Darjeeling district almost exactly trebled, the area under cultivation increased by 82 per cent. while the outturn was multiplied nearly ten times. It was natural that planters should turn their attention next to the waste lands of the western Duars, which border on the Tarai, and in 1874 a garden was opened out at Gazilduba by the late Mr. Richard Haughton, the pioneer of the tea industry in the Jalpaiguri district. The Gazilduba tea-garden was owned by Dr. Brougham, who had started the Dhutaria garden in the Darjeeling district in 1859. Fulbari was the next place to be planted and was opened out by the late Mr. Pillana, who gave his name to the market called Pillans Hat, and was owned by Colonel Money. Bagrakot followed, opened out by the late Mr. North and owned by Mr. S. Cresswell.

Extension of cultivation—It was soon found that the soil and climate of the Western Duars was suitable to the growth of tea ; Government offered land to investors on favourable terms and the industry developed rapidly.

Other industries—Apart from the manufacture of tea the other industries of the district are of little importance and are mainly directed to supply the simple means of the rural population. Gunny cloth of the very coarse quality is woven in the Western parganas and a striped cotton cloth called *phota*, made mainly of jute, is still manufactured for home consumption. The cultivation of *endi* or coarse silk from worms grown on the castor-oil plant has dwindled.

Minerals—The only mineral of importance is limestone, extracted from dolomite, of which large quantities are quarried along the foot of the Bhutan hills, especially in Jainti. Coal is extracted at Bagrakot. The geological wealth of the district has been discussed in the section on geology. A small copper mine at Chunabhati, two miles from Buxa was formerly worked by Nepalis, but closed down about sixty years ago. There are sulphurous springs near Bhutanghat and recently sulphur has again been sighted near Mahakal.

Trade—The trade of the district is mainly with Calcutta. The principal exports are tea, jute, tobacco and *sāl* timber; and imports are rice, cotton, piece-goods, machinery, corrugated iron, kerosene, oil, and coal and coke. The development of the tea industry and the influx of a large labour population into the Western Duars, combined with increased facilities of railway communication, have given an impetus to trade generally, and the large markets, which have sprung up in the neighbourhood of the tea gardens, provide the cultivator with a ready market for his rice, vegetables and other produce. The district is well supplied with railways, which have now monopolised most of the trade. Tea and jute are railed to Calcutta. The local supply of rice is insufficient to meet the increased demand of the large tea garden population, and rice is imported in considerable quantities. Corrugated iron and asbestos are largely used for the roofs of houses. Many of the tea gardens are unable to obtain sufficient wood for fuel and have to depend on coal and coke, which come principally from the Raniganj coal mines. The up-stream traffic is mainly confined to the import of earthen cooking utensils, cocoanuts, molasses, small quantities of *dal* (Arabica revalenta), and other miscellaneous articles from Dacca and Faridpur. Most of the trade with Bhutan passes through Chumurchi and Buxa. Ivory, wax, wool, musk, rhinoceros horns, cotton cloth, *endi* silk cloth, blankets, honey, and brick tea are imported and bought by local merchants, who pay for them in cash or exchange them for rice, tobacco, mill cloth or betelnut. Large quantities of indigenous wool from Bhutan, Tibet and Central Asia used to come into India by this route.

Trade centres—Many of the tea gardens have large markets of their own, which are held once a week, and in addition weekly markets are held at many places in the Western Duars, the most

important of which are Amguri, Matiali, Barnes Junction and Ramshai Hat in the Mainaguri tahsil; Madari Hat, Gairkata and Dhupguri in the Falakata tahsil; and Alipur Duar, Silitorsa and Samuktola in the Alipur tahsil. A very extensive network of markets exists under the auspices of the Khasmahal Department, looked after by the Western Duars Market Fund.

Fairs—The most important fair in the district is that held at Jalpes at the Sivaratri festival in February. The fair lasts for about three weeks and is attended by numbers of people from all parts of the district as well as from Rangpur, Dinajpur and other districts of Northern Bengal. Bhutias bring ponies, blankets and other articles and sell them at a good profit and the fair has increased considerably in importance during recent years. The great attraction at this fair is the Jalpes temple of which an account has been given elsewhere. Another fair is held at Falakata and begins about the middle of January.

MEANS OF COMMUNICATION

A full account and statistics of means of communication in the district of Jalpaiguri will be found in the statistical tables, series 9, of this volume. The recently constructed air strips in the district remain to be mentioned. These air strips were constructed during the Second World War at convenient points in the Western Duars. After the war they have become very helpful, especially during floods or other natural calamities, when the rail and road communications are interrupted. There are four air strips, one at Bagrakot (Saogaon), another at Nagrakata (grassmore), a third at Gayer Kata (Telipara) and the fourth at Hasimara.

LAND TENURES

Tenancies

An account of the Khas Mahals or Government Estates in the district of Jalpaiguri has already been given. The year after the annexation of the Duars an enquiry into the position of the *jotdars* was made by Tweedie, then Deputy Commissioner. He found that they represented the original reclaimers of the soil, that their rights were hereditary and in fact passed through many generations, that they could sell the land, and were in the habit of temporarily alienating it by usufructuary mortgage. Their holdings were not liable to sale or forfeiture for arrears of revenue and were lost to them only by voluntary alienation or by desertion. On the other hand, they were liable to pay such revenue as might be fixed and also occasional benevolences. Under the Bhutias, however, all rights were constantly violated, particularly during the period immediately before the annexation of the Duars. *Jotdars* occupying the same position are found throughout the Rajshahi division, predominating in the north, where a large proportion of the land has been recently brought under cultiva-

tion, and giving way gradually to the ordinary type of occupancy *raiyat* towards the south. Nolan, Commissioner of the Rajshahi division, in a note which he wrote on D.H.E. Sunder's settlement of the Western Duars, recorded the following remarks: 'Beneath the *Jotdar*, Tweedie found three classes—*chukanidars*, "who hold for a fixed term, being more than one year", *raiya*s, described as tenants by the year at a money rent, and *prajas*, or tenant-at-will, receiving from the *jotdar* the instruments of cultivation and giving to him half the produce. It is a common mistake into which one revenue officer falls after another, to assume that these four classes are always found one above the other on the same land, the last being the actual cultivator, and the other three living on his labours. Most *jotdars* plough their fields with their own hands, and those who employ "*prajas*" use them only as a small farmer does the labourers he hires. The "*raiya*s" of Mr. Tweedie's report are not said to hold under the *chukanidars*, from whom they are distinguished only by the length of the term for which they engage—a matter of no importance, when written contracts were unknown. These two classes are now amalgamated under the name of *chukanidars*, and have been greatly raised in the agricultural scale. It thus appears that under the Bhutias, there were really only two sorts of cultivators—the *jotdars*, found everywhere in a privileged position directly under Government, and in some places the *chukanidars*, tenants of the *jotdars* for a term, or year by year: there were also farm labourers, a landless class, working for hire on a peculiar system. The only change since effected is that the position of the *chukanidars* has been raised.' Since Mr. Tweedie's time the most important changes which have been made are that *jots* are liable to sale, if the rent due is not paid, and to forfeiture if the *jotdar* fails to comply with the conditions of his lease; the position of the *chukanidars* has been raised and they now have occupancy rights while their rents cannot be enhanced during the period of settlement. There are very few *dar-chukanidars* and these are not recognised by Government. In order to prevent sub-infeudation the leases at present in force contain clauses forbidding the creation of any tenure subordinate to the *chukanidar*.

Settlements: The first settlement—For six years after the cession of the Western Duars by the Bhutias, the policy followed was to collect all recognised dues without altering the amount. The first settlement took effect from April 1871 and was made after a detailed measurement and classification of all cultivated land; the *jotdars* were permitted to include in their holdings as much waste land as they chose, and in fact appropriated 142,127 acres of waste against 80,395 acres of cultivation. The rents of *chukanidars* were not recorded nor was any attempt made to fix them for the term of settlement, an omis-

sion of which Government subsequently expressed disapproval. The settlement was made for a term of seven years, but was allowed to stand for two years more. Meanwhile the *pargana* of South Mainaguri, which had been leased to the Raikat of Baikunthpur, reverted to Government and had to be dealt with. At this settlement it was finally decided that the *jotdar* has a vested transferable interest in the land. The rents were considerably increased, the rate for waste being doubled, with the result that the revenue of the *pargana* rose from Rs. 42,706 to Rs. 65,133. The rights of the *chukanidars* were again not recorded.

The second settlement—The second settlement took effect from April 1st, 1880, and was based on the rates in force in South Mainaguri, which had worked successfully for some years. On this occasion the rents payable by *chukanidars* were fixed for the term of settlement, provided that, where they did not exceed the revenue by 50 per cent, they could be "raised to that amount by the Settlement Officer if, after detailed enquiry, he found such a proceeding fair." In practice the courts decreed the specified maximum whenever the *jotdars* sought for enhancement. The general result of the settlement was to raise the revenue from Rs. 88,618 to Rs. 1,51,862, but though the rates imposed were not excessive, they were found to press too severely on the inferior *jots*, and remissions amounting to Rs. 17,800 had to be granted in addition to Rs. 5,465 lost by relinquishments and desertions.

The third settlement—The third settlement known as Mr. Sunder's settlement, was made in 1889-95 and was for a period of fifteen years in the four *tahsils* of the Western Duars, and for ten years in Ambari Falakata; but subsequent alterations were made in order that the term of settlement should expire in all cases on March 31st, 1908. The *jotdars* had agreed to an increase of three annas in the rupee rental, and it was at first assumed that this was equivalent to the same increase in the rates. It was found, however, that there had been an increase in cultivation more than sufficient to give the additional three annas without any alteration in the rates and irrespective of the gain derived from assessing new *jots*. The actual increase of revenue at this settlement was 60 per cent. of which 12 per cent. was on account of the increase in the area under cultivation and 48 per cent. was due to the enhancement of the rates. The rents of the *chukanidars* were fixed for the term of the settlement on the principle that they should ordinarily be 50 per cent. above the *jotdari* rates. It was recognised that a *chukanidar* has a heritable and transferable right to his holding subject to the payment of his rent. D.H.E. Sunder writes in his settlement report "a *chukanidar* cannot be ousted from his holding, except by order of a competent court, notwithstanding the

fact that he may not have been twelve years on a *jot*. There is an unwritten law between him and his *jotdar* that he cannot be ousted from his lands so long as he pays his rent. Some *jotdars* endeavour to get over this by giving a *chukanidar* a lease on plain paper, but they never succeed against the *chukanidar*." At the time of the first settlement no *dar-chukanidars* could be found, but during this settlement, it was discovered that there were 3,739 such under-tenants holding 18,253 acres of land. Government refused to recognise this newly created under-tenure and the *dar-chukanidars* were informed that they had no rights whatever.

The fourth settlement—The fourth settlement of the Western Duars was begun in the cold weather of 1907 and was completed in 1916. The results of the settlement of 1907 to 1916 are summarised as follows :

System of land tenure in the permanently-settled parganas—In the permanently-settled parganas the system of land tenure is in itself simple, but it does not adopt itself very readily to the Tenancy Act, and difficult questions of status arose. There are a few *patni taluks* and rent-free tenures, but the great bulk of the land is held by *jotdars*, most of whom have sublet at least a part of their land to *chukanidars* on exactly the same terms as those on which they themselves hold under the proprietor and the remainder to produce-paying tenants called in this district "adhiars". Long course of custom had entirely ceased to differentiate between those *jots* which had originally been taken up, sometimes by non-residents, with the idea of establishing tenants, and those held by the descendants of genuine cultivators. As settlement proceeded the indifference to the existence of any legal distinction rapidly disappeared, and the *jotdars* as a class clamoured to be recorded as *raiya*ts. They all claimed *mokorrari* rights, and section 50 of the Tenancy Act, which was their main stand by, had been held not to apply to tenures partitioned subsequent to the permanent settlement. It became necessary, therefore, to examine the origin of every *jot* and the following working criterion was established. Those *jotdars*, whose residence was within the tenancy and who had in their own possession at least one-third of the arable land, and those *jotdars*, whose homestead was outside the boundaries of the tenancy but who had at least half the arable land in their own possession, were recorded as *raiya*ts. Land held by *adhiars* was not considered to be in *khass* possession. The remaining *jots* were either recorded as permanent tenures or as tenures for a fixed number of years according to terms of the documents creating them. The claim to transferability without the landlord's consent was decided against all classes of tenants except those recorded as permanent tenure-holders.

The following table shows the result of the classification—

Classification—		Area in acres	Average rent		
Class			Rs.	A.	P.
Tenure-holders—					
Rent-paying, fixed	..	63,867	0	11	0
Ditto enhanceable	..	392,159	1	2	7
Rent-free	..	15,623	..		
Raiyats at fixed rents	..	12,795	1	2	11
Settled raiyats on cash rents	..	366,565	2	4	11
Settled raiyats on produce rents	..	14,745	..		
Occupancy-raiyats on cash rents	..	211	2	6	10
Occupancy-raiyats on pro- duce rents	..	53	..		
Non-occupancy raiyats on cash rents	..	14,135	2	14	1
Non-occupancy raiyats on produce rents	..	2,833	..		
Rent-free	..	3,402	..		
Under-raiyats, cash pay- ing	..	58,617	3	9	0
Under-raiyats, produce paying	..	9,937			

Land tenure in the Western Duars—In the Western Duars settlements were made under the provisions of Act XVI of 1869, and the Waste Land Rules of 1875 until 1895. In that year Act XVI was repealed and Act X of 1859 and Act VI B.C. of 1862 were substituted for it. In 1898 the Tenancy Act was extended to the temporarily-settled area, but proviso III of notification No. 964 T.-R., excluded from its application all lands previously or subsequently granted under written leases for the cultivation of tea or for reclamation under the Arable Waste Land Rules, while under proviso IV nothing in the Act "which was inconsistent with any rights or obligations of a *jotdar*, *chukanidar*, *dar-chukanidar*, *adhiar* or other tenant of agricultural land as defined in settlement proceedings heretofore approved by Government, or with the terms of a lease heretofore granted by Government" to any such tenant was to be held to override these rights and obligations. The main factor in deciding the rights of practically all the tenants in the Western Duars was the wording of their leases.

The most important class were the holders of the *mal jots*, a term which originally distinguished the tenancies which were in existence at the time of the annexation, but later came to include *jot* of more recent origin re-settled under the same form of lease by D. H. E. Sunder. The *jotdars* were recognized as having permanent transferable rights, "not from any opera-

tion of law, but by the gift of Government as the owner of the soil", in a letter from Government to the Board, dated the 10th April 1878. The leases issued in 1880, however, contained limitations which made it impossible to say that the tenancy was a permanent transferable interest within the meaning of the Bengal Tenancy Act. This settlement was not confirmed, and the *mal* jot leases granted by D. H. E. Sunder in 1891 constituted the first binding contract between Government and the *jotdars*. Their legal effect was to create a temporary tenancy in which the right of transfer and inheritance was confined to the currency of the lease. There was a right to renewal, but only on such terms as Government chose to dictate. The leases issued under the Waste Land Rules to new *jotdars* from 1888 onwards insisted on residence, but otherwise bestowed a right which was really permanent.

The notification of the 1898 had left Government with a free hand in respect to all these tenancies, and in order to avoid giving the tenants any handle with which to dispute it the Tenancy Act notification for the Duars omitted the usual clause (b) which provides for the record of the status of each tenant. Three successive Legal Remembrancers gave their opinion that there was no legal bar to the insertion in the new leases of conditions inconsistent with the Tenancy Act and D. H. E. Sunder's leases alike.

The form finally approved gives the *jotdars* all the rights of permanent tenure-holders except the absolute right of transfer. Clause 1, however, follows the preamble of D. H. E. Sunder's lease in containing a pronouncement to the effect that on expiry Government has a full discretion as to the terms of renewal. Subletting to chukanidars, who are not *bona fide* cultivators and residents, is forbidden, the new comers are protected from rack-rents, and the old chukanidars cannot be asked to pay rents higher than those recorded in the finally published records during the currency of the settlement. The sanction of the Deputy Commissioner has to be obtained to all transfers as well as to the erection of embankments or the cutting of new water-courses. There were similar prohibitions in the previous leases, but they were never enforced, partly because of the lack of a local reporting agency, partly because the Deputy Commissioner short of the cancellation of the lease had no definite powers. To remove these defects the new leases authorise the Deputy Commissioner to impose a fine up to Rs. 500 for minor breaches of the contract, and he can recover the cost of undoing any mischief caused by the unauthorized interference with water channels from the tenant at fault under the Public Demands Recovery Act.

Chukanidars were held by Sunder to have heritable and transferable rights, but they were

not allowed to sublet except to *adhiars* and their rents could be enhanced to a maximum of 50 per cent. above the *jotdar's* rates. At the present settlement rents more than 50 per cent. in excess of those paid by the *jotdars* have been recorded in some cases, but it has been laid down that no new *chukani* holdings must be settled at rates which leave more than that margin of profit.

Adhiars throughout the district were originally looked upon as tenants-at-will or labourers. In 1885 the question of raising their status was mooted, but nothing definite was done until the notification of 1898 spoke of them as tenants, and thus disposed of what the Settlement Officer called the prevailing heresy of regarding them as labourers. Between Sunder's and the present settlement there was a great extension of the system. The statistics show 32,408 *adhiars* in possession of 134,355 acres in the Duars and no less than two-thirds of the permanently-settled area was also cultivated by this class. After full discussion it was decided to record all the produce-paying tenants, who possessed their own ploughs and cattle as *rai'yats* or under-*rai'yats*, and to note the possession of the remainder in the remarks column of the *khatians* of their superiors.

Special settlement : Hedayat Ali's estate—

Shortly after the acquisition of the Western Duars, Colonel (then Major) Hedayat Ali, who acted as a Political Officer during the Bhutan war, obtained in February 1866 a rent-free lease for five years permitting him to bring under cultivation all the unoccupied lands in twenty *taluks*, with a promise that all lands so brought under cultivation would be settled with him at the end of the period. This lease was subsequently cancelled, as were also several other leases, but in May 1868 Colonel Hedayat Ali was given a lease under which he got exclusive possession of the whole of the unoccupied or waste lands in ten *taluks*, exclusive of the lands in the possession of Government *rai'yats*. The arrangements made with Colonel Hedayat Ali were modified in 1871 and again in 1876.

At Sunder's settlement 19,191 acres of waste land were resumed, the remaining 22,563 acres being settled with him at half rates. In the 1906-1916 settlement the question of the revenue to be paid by the heirs of Colonel Hedayat Ali was the subject of a special reference to the Government. It was decided that for a further period of 20 years they should enjoy favourable terms, but after that term their revenue will be brought into line with that of other *jots*.

At Sunder's settlement a block of 20,000 acres at Satali was reserved for Meches and Garos, but the experiment was not a success inasmuch as no precautions were taken to prevent transfer and Sub-infeudation to outsiders. The settle-

ment, however, is still peopled with Meches and a small proportion of Garos.

There is another colony of aboriginals at Totopara whose main source of livelihood is cultivation and trade in oranges.

There is also a colony of Santhal and Mech Christians at Mahakalguri in Alipur Duar subdivision on the banks of the Gadadhar and the Samuktola rivers. This was founded in 1890 by the Revd. A. J. Shields ; originally established on a purely Santhal colony, it now contains perhaps more Meches than Santhals.

EDUCATION

A full account of the educational institutions in the district will be found in the statistical section of this volume. The position of high, middle and primary schools in the district in March 1953 is as follows.

There are 23 boys' high schools and 4 girls' high schools, of which one boys' school is run by the Refugee Rehabilitation Department. The State Government wholly manages one boys' school and one girls' school and gives financial aid to 16 boys' schools and one girls' school. Two boys' schools are unaided and 5 schools, of which 3 are boys' schools, are unrecognised.

There are 38 boys' middle schools and 7 girls' middle schools, of which as many as 36 are aided by the Government. Of these aided schools 5 are girls' middle schools. There are 687 boys' primary schools and 7 girls' primary schools exclusively for girls. Of these primary schools, one boys' and one girls' are run entirely by the Union Government. The State Government, through the Refugee Rehabilitation Department, runs 67 primary schools including one basic experimental primary school. The District School

Board manages 10 junior basic schools. The Jalpaiguri Municipality manages one primary school entirely and renders aid to 14 schools, of which 6 are girls' schools.

One singular feature in the district is 2 nursery schools in the town of Jalpaiguri, both of which are aided. They are run on excellent and modern lines and are in charge of highly qualified women, educated specially for this purpose abroad. One of them, Miss Ray, comes of the famous Tea family of Annada Prasad Ray of Jalpaiguri.

There are several schools for professional education. One is a State-managed basic training school which turns out trained teachers for basic schools. There are 2 State-managed weaving schools and one State-managed training school for turning out qualified pharmacists or compounders. The capacity of this last mentioned school is 50 compounder trainees.

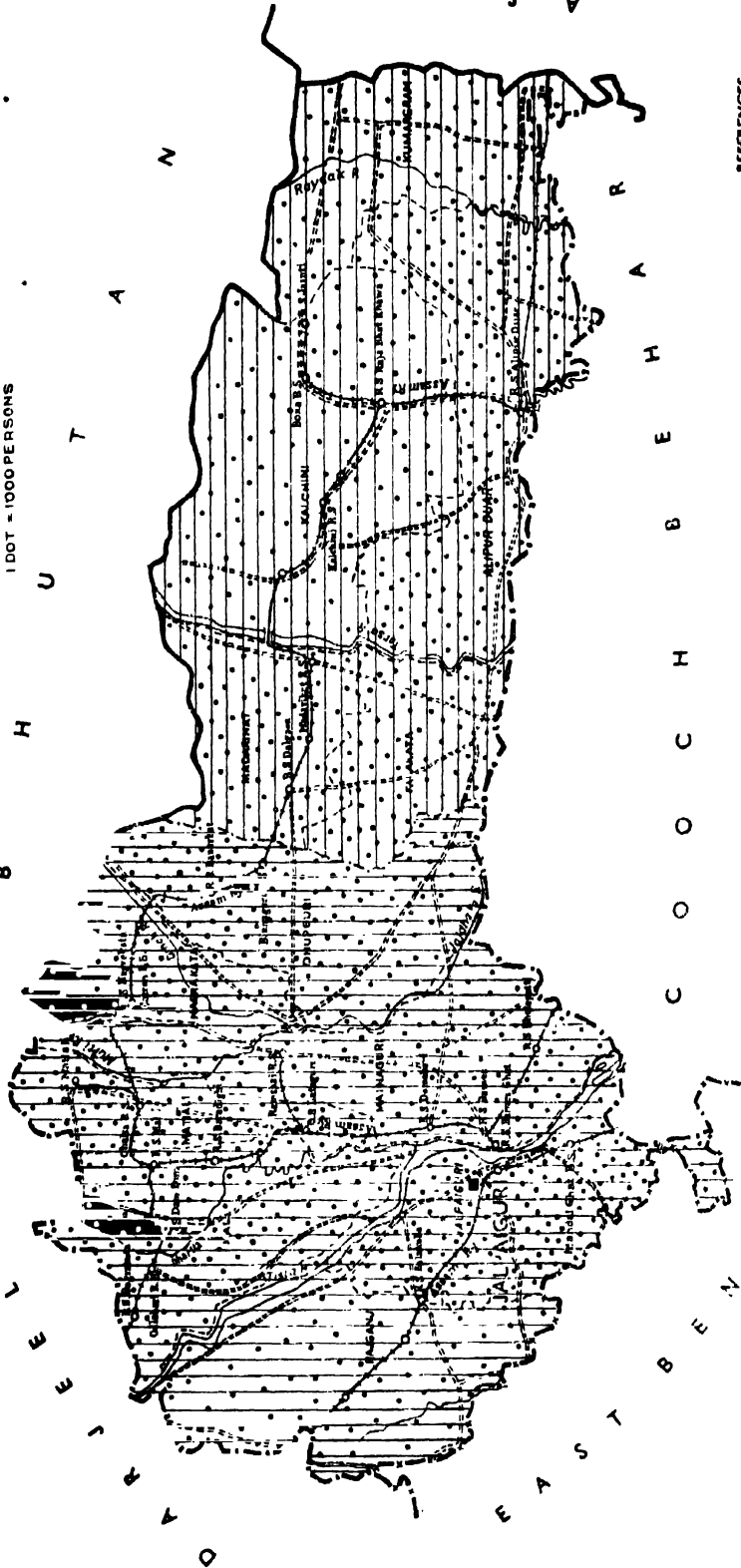
There is an excellent polytechnic called the Jalpaiguri Polytechnic Institute, established in 1950. In this polytechnic institute the period of training extends over three years and consists of six terms of twenty weeks each. The six terms are distributed between three terms of theory and three terms of practical work in the institute workshops. The syllabus is prescribed by the State Council for Engineering and Technical Education. The institute has a capacity for imparting training to 40 students in each session or term. Of these 40 seats, 4 seats, or 10 per cent., are reserved for candidates from the various districts of North Bengal, viz., Darjeeling, Cooch Behar, West Dinajpur and Malda.

There are 40 schools for adult education, of which 30 are managed by the State Government and 10 are aided. There are 3 *Tols* for Sanskrit education, aided by the State Government and one unaided *Tol*.

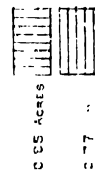
POPULATION OF DISTRICT JALPAIGURI

SHOWING AMOUNT OF CULTIVATED LAND PER CAPITA
IN EACH SUBDIVISION & POPULATION OF EACH THANA.

1 DOT = 1000 PERSONS



SUBDIVISION SADAR
PER CAPITA CULTIVATED LAND
SUBDIVISION ALIPURDUARS
PER CAPITA CULTIVATED LAND



REFERENCES

- Boundary International
- " : State
- " : District
- " : Sub-division
- " : Police Station
- Headquarters: District
- Name : Sub-division : JALPAIGURI
- " : Police Station : KALCHIN
- Road : Metalled
- " : Unmetalled
- Railway: with Station

NB THE AMOUNT OF CULTIVATED LAND IS TAKEN
FROM THE CROP SURVEY REPORT OF 1944-45
& THE POPULATION FROM THE CENSUS OF 1951

Chints have not been shown

Scale



APPENDIX I

GAZETTEER

Alipur Duar—The headquarters station of the subdivision of the same name. It is situated on the north bank of the Kaljani river, in 26° 29' N. and 89° 32' E. Its population in 1951 was 24,886. Alipur Duar is named after the late Colonel Hedyat Ali Khan, who did good service in the Bhutan war and was the first Extra-Assistant Commissioner to be stationed there. It is the centre of a large and increasing trade, and an important railway colony. It is a station on the Assam Railway, and is connected by a good road with Jalpaiguri; another road runs north to Buxa, but this is in bad order up to Buxa Road station, though efforts are being made to improve it. Alipur Duar is not a healthy place; it is situated on low-lying ground where rice used to be cultivated before the annexation of the Western Duars. There are several old beds of the Kaljani river in the neighbourhood and one of these, now a stagnant *jheel*, runs right through the civil station. During the rains, water lies about freely, and though much is being done to keep the roads and drains free from jungle, the inhabitants suffer severely from malarious fever. The rains are heavy and last from May to September. In these months when rain is not falling the heat during the day and often during the night is most oppressive; at such times there seems a want of sufficient air to breathe, and the steamy atmosphere renders it difficult to summon enough energy to do any work.

The Alipur Duars Subdivision—The eastern subdivision of the Jalpaiguri district, lying between 26° 24' and 26° 51' N. and 89° 3' and 89° 53' E. and extending over 1,078.5 square miles. Its population was 368,396 in 1951.

It is still sparsely peopled, the density to the square mile being only 342, but it includes large areas of reserved forest and tea, and the waste land available for settlement is being steadily taken up and brought under cultivation. The subdivision forms part of the Western Duars and has increased in numbers and prosperity since it came under Bengal province. The rise of the tea industry has led to the introduction of a large foreign population and many immigrants from Cooch Behar and the district of Rangpur have made their homes in it. The subdivision contains the former military cantonment of Buxa and 345 villages, at one of which, Alipur Duar, its headquarters are situated. The chief markets are at Alipur Duar, Buxa, Falakata, and Madari Hat; there are also large private markets on some of the tea gardens.

Ambari Falakata—Formerly called the Bengal Duars, a small Government estate, or *tahsil*, lying to the west of the Tista, and bounded on all sides by the Baikunthapur *pargana*. It was annexed from Bhutan in 1865 at the same time as the Western Duars and takes its name from a mango grove which stands on one of its *jots*. The Karatoya runs through the centre of the *tahsil*. The land on both sides of the river is high and sandy, but grows crops of mustard and *aus* rice; the soil is generally inferior to that east of the Tista, and there is a tendency for the people to move into the Western Duars. The area of Ambari Falakata is 9,837 acres or 15½ square miles, of which 9,370 acres were settled by D.H.E. Sunder in 1889-95.

Bagrakot—The terminus of the western branch of the Bengal-Duars Railway. It is situated near the foot of the hills close to the Darjeeling border, and is always much cooler than Dam-Dim, 6½ miles distant.

Barnes Junction—A station on the Bengal-Duars Railway. It is connected by a branch line, about a mile in length, with Barnes Ghat on the left bank of the Tista opposite Jalpaiguri, with which it is connected by a ferry under the control of the railway company. Barnes Ghat used to be the terminus of the Bengal-Duars Railway and passengers and goods were ferried across the river and joined the Eastern Bengal State Railway at Jalpaiguri. The construction of the southern branch of the railway in 1898-1900 to Lalmanir Hat on the Dhubri extension of the Eastern Bengal State Railway gave through communication and avoided the troublesome crossing of the Tista river. There is a bazar at Barnes Junction.

Bhutan Duars—The tract of country lying along the foot of the Himalayas which was ceded by the Bhutias after the Bhutan war. It was divided into two portions; the Western Duars, which now forms part of the Jalpaiguri district, and the Eastern Duars, which is included in the district of Goalpara. The Bhutan Duars comprises a strip of country about 180 miles in length with a breadth of from 20 to 30 miles.

Buxa—Formerly a military cantonment and later a political prisoner's detention camp. Situated on a small gravel plateau 1,800 feet above sea level, in a valley in the lower range of the Bhutan Hills, in 26° 46' N. and 89° 35' E. It commands one of the principal passes into Bhutan and is two miles from Santrabari, at the foot of the hills and six miles from the frontier. A good road, maintained by the Central Works and Buildings Department, leads to it from the Buxa Road station on the Assam Railway; for three miles this road runs through the reserved forest to Santrabari whence a hill road, with gradients too steep for carts, winds in and out to the cantonment. Before the railway was constructed troops had to march from Cooch Behar, 32 miles away, and the road was then kept in excellent repair. The cantonment, which was established during the Bhutan war in 1864, consisted of a rough fort with 3 pickets called the right, left, and Magdala, on spurs at a higher elevation. Water is obtained from two perennial streams, one of which issues from the base of the plateau. The average annual rainfall is 209 inches. Though it is not situated at a high elevation, the climate of Buxa is salubrious and there is little illness. During the rains the place swarms with leeches, and it is impossible to move off the roads without getting covered with them. Buxa lies on one of the trade routes from Bhutan, whence ivory, wax, wool, musk, rhinoceros horns, cotton cloth, *endi* silk cloth, blankets, honey and brick, tea are imported and bought by local merchants, who pay for them in cash or barter rice, tobacco, English cloth, betelnut, etc., for these commodities. Large quantities of indigenous wool from Bhutan, Tibet and Central Asia enter India by this route for export to Europe.

Chalsea—A station on the eastern extension of the Bengal-Duars Railway. A metalled road leads from it to Matrali Hat, one of the largest markets in the tea-garden area.

Chota Sinchula—A peak of the Sinchula range situated about 7 miles north of Buxa cantonment in 26° 47' N. and 89° 34' E. It is the highest point in the Jalpaiguri district and has an elevation of 5,695 feet above sea level. This peak separates Indian from Bhutan territory.

Dam-Dim—A station on the Bengal-Duars Railway and the terminus of the original line. It is surrounded by tea gardens and a weekly market is held which is largely

APPENDIX I—contd.

attended by labourers. The Dam-Dim police station was formerly notoriously unhealthy and the men stationed there suffered severely from malarious fever; it was removed to Mal in 1908.

Dhupguri—A village on the Jalpaiguri-Alipur road about half way between Mainaguri and Falakata. It is the centre of a fertile tract of rice growing country and is connected by good roads with Gairkata on the north and Naothoa on the north-west, at both of which places there are large markets through which supplies reach the tea gardens. The market at Dhupguri is of considerable importance and much jute is brought to it for sale. There is a police station here, but the men suffer much from fever and the place is one of the unhealthy stations in the Western Duars.

Domohani—A station on the Bengal-Duars Railway about nine miles north of Barnes Junction. The railway workshops are situated here and there is a large market. A good road connects Domohani with Mainaguri, three miles to the north-east, and there is a ferry across the river Tista to Paharpur on the Jalpaiguri-Dam-Dim road.

Duars, Western—The tract of country, lying along the foot of the Himalayas between the Tista and Sankos rivers. It includes some outlying spurs in the north-east of the district, on one of which the former Buxa cantonment is situated, and has an area of about 1,968 square miles. It is bounded on the north by the Darjeeling district and Bhutan, on the east by the Sankos river, on the south by Cooch Behar and pargana Baikanthpur, and on the west by the Tista river. This tract, with the Eastern Duars, which now forms part of the Goalpara district, was annexed to Bengal in 1865 at the time of the Bhutan war. The Western Duars slopes from north-west to south-east, and is intersected by numerous rivers and streams, which drain the Himalayas. In the north, a series of well wooded plateau, rising to between twelve and fifteen hundred feet, form the connecting link between the hills and the plains. Their soil, a reddish loamy clay, in places of great depth, their climate, and the rainfall which reaches 180 inches in the year, are all well adapted to the growth of the tea plant, and the gardens extend throughout their entire area except where the land is occupied by the reserved forests, the area of which is 509 square miles. At the foot of these plateau used to stretch a belt of grass jungle, which gradually gave way to the ordinary cultivation of the plains, but as far east as the Torsa river nearly all the grass has been cleared away and the land brought under the plough. East of Alipur Duar the country is thinly peopled and there is still a good deal of waste land available for settlement. The closest tillage is to the west between the Tista and Torsa rivers, where rich fields of rice, jute, tobacco, and mustard stretch up to the Cooch Behar boundary. Owing to the development of the tea industry, the population, which was very small when the Western Duars was first acquired, is rapidly increasing; large numbers of immigrants, mainly from Chota Nagpur and the Santhal Parganas, have come into the district to work in the tea-gardens and many of them have settled down in it. For administrative purposes the Western Duars is divided into four *tahsils*, viz., Mainaguri, Alipur, Falakata, and Bhalka. The principal Government markets are Mainaguri, Ramshai Hat, Matiali Hat, and Amguri in the Mainaguri *tahsil*; Falakata, Gairkata, and Madari Hat in the Falakata *tahsil* and Alipur Duar in the Alipur *tahsil*. Many of the tea gardens have *hats* of their own and there are several private markets, the most important

of which are Baradighi, Naothoa, Dhupguri and Silitorsa.

Falakata—A village, the headquarters of a police station, situated on the east bank of the Mujnai river close to the boundary of Cooch Behar in 26° 31' N. and 89° 13' E. It is also the headquarters of the *tahsil* of the same name which comprises the tract of country between the Jaldhaka and Torsa rivers. Falakata was formerly the headquarters of what is now the Alipur Duar subdivision. It has an important market at which some of the best jute, tobacco and mustard grown in the Western Duars are sold and is connected by a good, well bridged road with Madari Hat, the eastern terminus of the Bengal-Duars Railway. It is 32 miles from Jalpaiguri and 22 miles from Alipur Duar, the main road between which places passes through it. The Mujnai river is navigable up to Falakata by boats of 50 maunds burden throughout the greater part of the year. An annual fair, lasting about a month, is held in February on the occasion of the Sripanchami festival. Bhutias used to visit the fair in large numbers but few of them do so now.

Gairkata—A village on the Angrabasha river, a tributary of the Duduya; it has a large Government market and is the centre of a series of roads, maintained by the Works & Buildings Department, which connect it with the rice growing country on the south, and the tea gardens on the north. There is a large tea gardens here.

Jalpaiguri—Formerly the administrative headquarters of the Rajshahi division and now of the northern tracts of the Presidency Division, and of the Jalpaiguri district, situated on the right bank of the Tista river in 26° 32' N. and 88° 43' E. Its population at the census of 1951 was 41,259. The town derives its name from the olive trees which used to exist in some numbers; even as late as 1900, many of them were to be seen near the Deputy Commissioner's cutcherry. The town is divided into two parts by the Karla river over which there are three bridges, two near the Deputy Commissioner's offices, and the other higher up stream, near the market place. Jalpaiguri is a well wooded town, the main roads being shaded by avenue of trees; in May and June when the *ajar* trees are in flower, the effect is very pretty. A fine view of the snowy peaks of the Himalayas can be seen in clear weather from the iron bridge across the Karla river.

Jalpaiguri has always been a bad place for fires and floods owing probably to the inflammable nature of most of the buildings and their lowness of elevation. In 1878 the whole of the Government offices, except the treasury, including the Commissioner's office, the Deputy Commissioner's offices, the Judge's Court house and the Munsif's Court were burnt to the ground. In consequence of this fire the Commissioner removed to Rampur Boalia, but Jalpaiguri again became the head-quarters of the division in 1888 when Lord Ulick Browne was Commissioner. In 1897 the Munsif's court was again burnt down, in 1898 the Circuit House, in 1905 the market and surrounding shops, in 1906 the Deputy Commissioner's offices, and in 1907 the Zilla School. The temporary buildings, in which the Deputy Commissioner's offices were housed, were destroyed by fire in 1908.

The town though small does a considerable trade; it is served by the Assam Railway and is connected with Barnes Ghat on the east bank of the Tista by a ferry.

APPENDIX I—concl'd.

A Municipality was constituted in 1885 and the Board consisted of 13 Commissioners of whom 3 were *ex-officio* members, the Deputy Commissioner being the Chairman, while the rest were nominated by Government.

The Jalpaiguri Subdivision—The western subdivision of the Jalpaiguri district, lying between 26° 16' and 27° N. and 88° 25' and 89° 7' E. and extending over 1,296 square miles. Its population in 1951 was 546,142 giving a density of 385 persons to the square mile. The subdivision includes two distinct tracts—the permanently settled *parganas*, which once formed part of Rangpur, and the Mainaguri, Nagrakata, Dhupguri, Mal and Matiali police stations west of the Tista. The subdivision contains one town, Jalpaiguri, its headquarters, and 431 villages. There are interesting archaeological remains at Jalpes. The chief centres of trade are Jalpaiguri town, Mainaguri, Amguri, Matiali Hat, and Dhupguri, and several of the tea estates have large weekly markets of their own. Recently a number of silver coins have been found in Sarugaon Tea Estate on the Dima River. The writings on the coins are: (1) Obverse—'Ahadul Imam Ali Mustafizul Musalmin' and on the (2) Reverse 'Sultan-ul Assam Nasirrez-zahman waled Abul Zatar Muhammad. This may throw new light on the history of this tract.

Jalpes—A village in *pargana* South Mainaguri, situated in 26° 31' N. and 88° 52' E. It contains a temple of Siva, which was built on the site of an earlier temple by Pran Narain, one of the Cooch Behar Rajas about three centuries ago. The temple is a massive whitewashed building, surmounted by a large dome, with an outer diameter of 34 feet, round the base and top of which run galleries; it stands on a mound near the bank of the river Jhorda and is surrounded by a moat. A flight of steps leads down to the basement which is sunk some depth in the mound and which contains a very ancient Siva *linga*.

This *linga* is called Anadi without beginning in the hymns of Siva and is also referred to in the Kalika Puran which relates how "somewhere in the north-west of Kamrup, Mahadeo appeared himself in the shape of a vast *linga*." An old established fair is held at Jalpes in February at the time of the Sivaratri festival; it lasts for about three weeks and is attended by people from all parts of the district as well as from Rangpur, Duajpur, and other parts of Northern Bengal. Bhutias come from Darjeeling, Buxa and Bhutan with cloth, blankets, ponies and skins and take away cotton and woolen cloths, betelnut and tobacco. The fair has increased considerably in size during recent years.

Kumargram—A small village at which are situated the headquarters of the Bhalka *tahsil*. Roads run from it to Alipur Duars and to Chakchaka, on the Cooch Behar boundary. A market is held here twice a week.

Madarihat—A village on the west, or right, bank of the river Torsa and the terminus of the eastern branch of the Bengal-Duars Railway. It is connected by a good road with Falakata on the south, and the Hantapara tea garden and bazar on the north. Madari Hat is of some importance as a seat of trade and its market, which is held once a week, is growing rapidly. Nearly all the land in the vicinity has been brought under cultivation, much of it by Oraona and Nepalis; jute is a large crop.

Mainaguri—A village situated on the Jhorda river seven miles from Jalpaiguri. The main road from Jalpaiguri to Alipur Duar passes through it and several other roads run from it, the principal of them connecting it with Domohani railway station and Ramshai Hat. The Jalpes temple is four miles from

Mainaguri. Mainaguri is the headquarters of the *tahsil* of the same name and a police station is located here. The small civil station has been laid out carefully; a pretty flower garden has been made round the tank near the *tahsil* office, trees have been planted and the roads and drainage much improved. The public buildings are all good; the *tahsil* office, the school house, and the hospital being the most noticeable. There is a good inspection bungalow on the other side of the river which is bridged at Mainaguri. The market is one of the best in the Western Duars; the sheds have corrugated iron roofs and masonry platforms; it is well drained and a plentiful supply of water is obtained from wells.

Mal—A junction on the Bengal-Duars Railway from which branches run east to Madari Hat, west to Bagrakot on the border of the Darjeeling district, and south to Barnes Junction, and Lalmanir Hat. A large market is held once a week at Batugol, 1½ miles away on land belonging to the Hahaipathia tea garden; it is attended by numbers of labourers from the neighbouring tea gardens. The Dam-Dim police station was removed to Mal and an Inspector of Police will have his headquarters here.

Matiali Hat—A small bazar in the centre of the Chalsa group of tea gardens. A metalled road, maintained by the Works & Buildings Department, connects it with the Chalsa railway station five miles to the south. A large market is held here once a week, and is attended by thousands of tea garden labourers; the trade is mainly in the hands of Marwari merchants, several of whom have shops at Matiali Hat and do a flourishing business. There is a police outpost in the bazar, subordinate to the Mal police station.

Nagrakata—A station on the eastern extension of the Bengal-Duars Railway. There is a police station here. Nagrakata derives its name from Nagra Bhutia who used to live here.

Rajabhatkhawa—A station on the Assam Railway north of Alipur Duar. A road runs west from it to the Torsa river and all the traffic from the gardens between the Torsa and the railway line comes to this station. Rajabhatkhwa is the headquarters of the Buxa forest division, the place is little more than a large clearing in the Buxa forest but at times it has quite a large population owing to the amount of timber exported from it. There is a small market here.

Rajganj—A village in *pargana* Baikunthpur on the main road between Jalpaiguri and Silguri. Another road from Bhajanpur on the Titulya road passes through it and connects it with the railway station at Belakoba on the Assam Railway; this road carries heavy traffic particularly during the jute season. Rajganj is in the Baikunthpur estate, the Raikat of which owns the large market to which jute of excellent quality is brought for sale. There is a police station at Rajganj, the jurisdiction of which coincides with that of the old Sanyasikata police circle.

Ramshai Hat—The terminus of a short branch line from Latiguri station on the Bengal-Duars Railway. It is situated on the right bank of the Jaldhaka river with the Lower Tondy forest on the west and the Daina forest across the river on the east. Before the construction of the eastern extension of the railway to Madari Hat, traffic to and from the tea gardens east of the Jaldhaka had to use this station and, after the disastrous floods in 1906, this traffic returned temporarily to its old route. Ramshai Hat is connected by road with Chalsa, Nagrakata, Mainaguri, and Gaikata. There is excellent big game shooting close to the forests and particularly in the jungle between the Jaldhaka and Daina rivers which is a favourite resort of tigers.

APPENDIX I

NOTE I

A

Details of Tea Estates Affiliated to the Indian Tea Planters' Association, Jalpaiguri

Name of Tea Estate	Rly Station & its Distance from the Estate	Area under Tea as at 31-12-52 (acres)	Gross acreage of the Estate (acres)
1	2	3	4
Atiabari	T. E. Garopara 1 mile	1051.84	1823.83
Kohinoor	" Alipurduar 15 miles	644.92	1862.96
Nimtijhora	" Kalchini 9 "	639.10	1162.83
Mathura	" Coochbehar 18 "	1175.00	2468.59
Dhowlajhora	" Alipurduar 16 "	593.15	1522.47
Subhashini	" Hasimara 14 "	830.28	1208.33
Madhu	" Hasimara 34 "	589.67	1052.32
Majherdabri	" Alipurduar 1 "	652.12	1105.92
Turturi	" Jainti 11 "	400.77	1513.20
Patkapara	" Kalchini 12 "	722.74	1202.27
Srinathpur	" Alipurduar 12 "	353.68	798.25
Radharani	" Kalchini 7 "	305.37	711.00
Chuniajhora	" Jainti 6 "	574.99	1874.15
Rahimabad	" Jainti 7 "	732.79	1930.72
Gopimohan	" Hasimara 10 "	66.30	186.00
Chamurchi	" Banarhat 7 "	875.34	2212.95
Mogulkata	" Banarhat 5 "	920.00	1503.08
Nedam	" Mal Jn. 3 "	628.00	889.88
Katalguri	" Banarhat 5 "	1032.10	2405.15
Ramjhora	" Dalgaon 6 "	854.00	1496.69
Kailashpur	" Oodlabari 11 "	325.87	1219.75
Debpura	" Banarhat 3 "	1008.00	1500.17
Gurjaman	" Do 2 "	717.50	1050.17
Kalabari Rangati	" Do 6 "	569.68	1477.75
Gopalpur	} " Mujnai 2 "	989.70	1534.93
Manipur			
Jogesh Chandra	" Oodlabari 16 "	825.14	1280.39
Luxmikanta	" Binnaguri 12 "	270.75	995.38
Kadambini	" Dalgaon 18 "	787.83	1774.97
Anandapur	" Oodlabari 12 "	714.21	905.42
Rheabari	" Banarhat 4 "	653.58	1338.08
Mission Hill	" Damdun 12 "	448.99	901.89
Bholanath	" Ramshai 1 "	155.96	180.96
Mohanlal Ramchandra	" Do 1 "	439.00	753.00
Rahimpur	" Binnaguri 24 "	528.00	1391.00
Dheklapara	" Do 5 "	1001.00	1747.97
Ambari	" Banarhat 8 "	691.00	1880.80
Red Bank	" Do 5 "		
A. Mujnai	" Madarihat 7 "	815.48	1811.99
B. Makrapara	" Dalgaon 9 "	450.00	1839.66
Nepuchapur	" Baradighi 5 "	536.00	891.00
Batabari	" Chalsa 3 "	608.66	950.00
Diana	" Banarhat 4 "	763.00	1167.89
Jaldacca Altadanga	" Binnaguri 2 "	266.00	1358.92
Hossaiabad	" Dalgaon 14 "	394.00	667.53
Gurjangjhora	" Mal Jn. 3 "	635.78	806.43
Totapara	" Banarhat 0 1/2 "	682.00	1199.86
Malnaddy	" Mal Jn. 3 1/2 "	232.00	327.75
Toonbari	" Mal Jn. 2 1/2 "	331.75	695.08
Joypur	" Belakoba 5 1/2 "	512.72	858.42
Karalavelly	" Jalpaiguri 3 1/2 "	370.24	790.16
Raipur	" Do 9 "	520.00	1200.00
Saraswatipur	" Belakoba 14 "	552.20	900.08
Bhandiguri	" Do 6 "	551.12	950.00
A. Shikarpur	" Do 3 "	968.00	1130.27
B. Bhandapur	" Do 3 "	230.00	303.00
Cooch Behar	" Dalgaon 16 "	366.00	750.00

APPENDIX I (Note 1)—contd.

B

Details of Tea Estates Affiliated to the Indian Tea Association in Jalpaiguri District

OODLABARI SUBDISTRICT

<i>Tea Estate</i>	<i>Railway Station</i>	<i>Acres under Tea</i>	<i>Total Acreage</i>
Bagrakote	Bagrakote	1,516.25	3,240.64
Ellinbarrie	Bagrakote	500.30	955.85
Leesh River	-do-	1,552.00	2,800.00
Manabarrie	Oodlabari	632.97	1,330.12
Patharjhora	-do-	896.11	2,140.18
Washabarrie	Bagrakote	599.83	1,045.66
Oodlabarrie	Oodlabari	578.00	1,838.00
		Total	13,350.45

Baintgoorie	Dam Dim	1,186.00	2,611.48
Dalingkote	Mal	591.00	981.05
Fagu	Dam Dim	950.00	1,773.41
Meenglas	-do-	836.42	1,689.49
Danguajhar	Jalpaiguri	1,016.00	2,523.90
Dam Dim	Dam Dim	1,618.00	3,229.63
Kumlai	-do-	939.20	1,618.35
Nakhati	Mal	669.62	1,228.72
Rungamuttee	-do-	1,832.75	3,515.89
Nowera Nuddy	Neora Nuddy	720.00	1,589.86
Soongachi	Mal	1,001.05	2,211.53
Good Hope	Dam Dim	987.77	1,560.47
Hahaipatha	Mal	938.29	1,588.00
Ranicherra	Dam Dim	1,234.05	3,031.47
Sylee	-do-	1,474.28	2,506.63
New Glencoe	Mal	844.52	1,406.67
		Total	33,066.55

CHALSA SUBDISTRICT

Aibheel	Matelli	885.00	1,692.00
Chalouni	-do-	1,168.00	1,925.79
Chalsa	-do-	1,038.25	1,542.19
Killcott	-do-	936.76	1,613.66
Nagansuree	-do-	1,124.90	2,382.49
Sam Sing	-do-	1,287.00	1,899.00
Satkhyah	Chalsa	1,093.00	2,354.00
Yong Tong	Matelli	838.00	1,244.03
Zurrantee	-do-	1,120.90	1,834.69
Kumai	-do-	695.00	2,047.75
Baradighi	Lataguri	1,078.15	1,976.75
Matelli	Matelli	800.02	1,383.86
Moortee	-do-	751.42	1,197.81
Engo	-do-	264.81	399.84
Indong	-do-	1,056.00	2,130.45
Batabari	Chalsa	608.66	950.34
		Total	26,574.65

Carron	Carron	602.00	1,437.00
Hope	Nagrakata	878.51	1,780.81
Jiti	-do-	1,177.97	2,594.91
Chengmari	Chengmari	1,578.00	6,155.92
Looksan	Carron	775.00	2,272.49
Nya Sylee	Nagrakata	957.55	1,960.27
Bamandanga	-do-	919.00	2,335.72
Bhogotopore	-do-	1,320.00	3,389.90
Ghatia	-do-	921.26	2,129.85
Grassmore	-do-	777.00	2,514.07
Hilla	-do-	763.00	1,527.21
Kurti	-do-	742.00	1,927.00
Nagrakata	-do-	1,014.00	2,287.84
Tondoo	-do-	611.00	1,274.00
		Total	33,586.95

APPENDIX I (Note I)—concl'd.

Details of Tea Estates Affiliated to the Indian Tea Association in Jalpaiguri District—concl'd.

BINNAGURI SUBDISTRICT

<i>Tea Estate</i>	<i>Railway Station</i>	<i>Acreage under Tea</i>	<i>Total Acreage</i>
Gandrapara	Banerhat	1,252.13	2,796.26
Lakhipara	-do-	957.00	2,311.02
Ambari	-do-	1,001.00	1,747.97
Huldibari	Binnaguri	1,436.78	2,793.03
Totapara	Banerhat	682.00	1,288.32
Bundapani	Binnaguri	923.00	5,817.25
Gairkhata	-do-	1,286.00	2,946.54
Telepara	-do-	1,012.75	3,735.87
Banerhat	Banerhat	1,139.30	2,110.58
Choonabhatti	-do-	901.00	1,880.61
Karballa	-do-	1,400.80	2,685.76
New Dooars	-do-	1,112.98	2,426.17
Binnaguri	Binnaguri	1,115.07	3,832.92
Moraghat	-do-	878.00	1,661.00
Chamurchi	Banerhat	878.34	2,231.58
Diana	-do-	763.00	1,167.89
Total		16,739.15	41,432.77

DALGAON SUBDISTRICT

Birpara	Dalgaon	1,388.24	6,314.42
Dumchipara	Madarihat	1,162.00	2,571.84
Garganda	-do-	1,002.00	2,332.36
Hantapara	-do-	2,265.06	3,039.61
Lankapara	Dalgaon	1,842.18	6,510.37
Tasati	-do-	1,076.22	1,483.90
Dalmore	-do-	951.00	5,639.28
Dalgaon	-do-	1,544.50	2,226.55
Ethelbari	-do-	447.00	959.74
Total		11,678.20	28,378.07

Jaybirpara	-do-	607.00	1,070.76
Sarugaon	-do-	663.00	1,789.72
Nagdala	-do-	968.00	2,251.20
Dem Dima	-do-	1,168.00	2,982.29
Hosanebad	-do-	642.00	806.42
Total		15,726.20	37,287.47

Bhatkhawa	Garopara	1,149.00	1,149.00
Rajabhat	-do-	764.00	1,040.00
Bhatpara	Hamiltangonj	1,202.79	3,400.97
Central Dooars	Kalchini	1,612.80	3,707.72
Chupara	Hamiltangonj	1,276.50	2,646.62
Mechpara	-do-	1,101.30	1,943.24
Dalsingpara	Hasimara	1,255.40	4,878.30
Torsa	-do-	838.83	3,310.73
Dima	Kalchini	874.46	1,950.18
Caneutia	-do-	754.12	1,600.96
Chenchula	-do-	663.50	1,271.00
Kalchini	-do-	1,365.00	1,427.50
Paimetang	-do-	986.50	1,521.11
Peech	Hasimara	1,074.44	1,792.62
Bharnobari	-do-	1,039.61	2,021.92
Malanghi	-do-	1,027.96	2,033.73
Satali	-do-	702.01	1,415.01
Radharance	Kalchini	305.37	711.00
Subhasini	Hasimara	809.96	1,208.33
Total		18,803.55	39,929.34

Jainti	Jainti	800.49	4,135.93
Kartick	-do-	625.29	3,307.43
Raydak	-do-	1,126.53	3,559.77
Kumargram	-do-	1,002.39	2,288.56
Newlands	-do-	1,084.29	2,844.61
Phaskhawa	-do-	347.62	1,270.89
Sankos	-do-	924.02	2,306.14
Total		5,910.63	19,713.33

APPENDIX II

An Account of Land Management in the District of Jalpaiguri, 1870-1950

The area of the Jalpaiguri district is returned by the Superintendent of Revenue Surveys at 2,906 square miles (which is identical with that reported in 1875 by the Boundary Commission of Bengal) of which 928 sq. miles are said to be either under cultivation or to be cultivable, and 1,978 square miles to be waste and uncultivable. The Deputy Commissioner of the district, however, makes the area of the district somewhat less. In 1870 he returned it as follows:—

Area of the former Western Duars .. 1,191,752 acres or 1,862.11 sq. miles

Area of the Rangpur parganas transferred to the Western Duars in 1869 (when the name of the district was changed to Jalpaiguri) .. 656,381 acres or 1,025.59 sq. miles

Total area of the district .. 1,848,133 acres or 2,887.70 sq. miles

Pargana	
Bhalka	.
Buxa	.
Bhatibari	.
Chakoa Khatriya	.
Madari	.
Luxmipur	.
Maraghat	.
Mainaguri Khas	.
Mainaguri Ijara	.
Chengmari	.

Deducting the reserved forest area and that of the track leased to the zemindar of Baikunthapur there remains a total of 909,772 acres in the Western Dooars, of which 80,999 acres were under cultivation in 1870; of the remaining 828,773 acres, about three-fourths are said to be capable of cultivation. Of the above mentioned 80,999 cultivated acres the Deputy Commissioner in 1870 estimated that 46,230 acres were under the *aman* or cold weather rice crop; 3,737 acres consisted of homestead land and village sites and 31,030 acres of *aus* rice, mustard seed, tobacco and other crops.

There is a great deal of available spare land in the western Dooars and also a considerable portion in the south of the Baikunthapur Jungle Mahal in the Regulation part of the district. The western Dooars tract is under Government management (Khas) and settlements are only given for a short term of years; but Baikunthapur, Boda and Patgram parganas which form the Regulation part of the district, transferred from Rangpur in 1869, are all formed in perpetuity.

The Deputy Commissioner states that there is no tendency towards the growth of a distinct class of day-labourers in Jalpaiguri district, neither renting land nor possessing fields of their own. Almost every man in the district tills a little plot of ground for himself. Several of the smaller husbandmen, however, in addition to cultivating their own small patches also till the fields of others, receiving in return for their labour a one-half share of the crops. These men are called *adhiari* cultivators; the holder of the land pays the zamindar's or landlord's rent, and also supplies the seed-grain, the cultivator having to find the plough cattle, agricultural implements and labour. This, however, applies to the Regulation part of the district west of the Tista. In the Dooars portion of the district to the east of the Tista the same practice of cultivating on a sharing tenure is also followed; but here the holder of the land or *jotedar* has to find the seed-grain, cattle and agricultural implements, everything except the actual manual labour.

Out of this area 219,227 acres or 342.54 square miles had been reserved as forest lands and are under the management of the Forest Department, leaving a balance of 1,628,906 acres or 2,546.16 square miles. The Deputy Commissioner states that he has no means of ascertaining the proportion of cultivated, cultivable and waste lands in the permanently settled parganas which are transferred from Rangpur district; but he is of the opinion that fully three-fourths of the whole are cultivated and that of the remaining 1/4th or 75 per cent is capable of being brought under the plough. In the Western Dooars the cultivated and uncultivated area of each pargana was returned as follows by the Deputy Commissioner in 1870 —

Cultivated	Uncultivated	Total
9,070 acres	66,971 acres	76,041 acres
6,212 "	186,230 "	192,442 "
9,257 "	85,868 "	95,125 "
3,671 "	84,930 "	88,601 "
6,404 "	117,981 "	124,385 "
5,619 "	99,734 "	105,353 "
18,729 "	199,852 "	218,581 "
15,316 "	119,761 "	135,077 "
60,000 "	2,752 "	62,752 "
10,619 "	82,774 "	93,393 "

The cultivators' share of the crop, however, is the same in both cases. The reason of this is that in the tract to the west of the Tista almost the whole of the land is taken up and cultivated, while in the Western Dooars to the east of that river, there is still a great deal of available uncultivable jungle land, and the tenure-holders have to offer additional inducements to the husbandmen.

Almost every cultivator in the district keeps some cattle of his own, and uses the cow-dung and stable litter for manuring his tobacco, *pan*, betel-nut, sugarcane, and in fact all his crops, as far as the supply lasts. From 70 to 80 maunds per bigha or from $7\frac{1}{2}$ to $8\frac{1}{2}$ tons per acre is considered a liberal allowance of manure for sugarcane land.

Irrigation is very commonly practised in the eastern portion of the Western Dooars subdivision, principally for the *aman* or winter rice crop. The water is conveyed to the fields by small artificial channels and water courses, cut from the neighbouring rivers and streams, which intersect the country in every direction, and which are dammed up for the purpose. These small channels or trenches, called *dungas* (later called *jambhos*), are generally cut by the cultivators themselves, and not by hired labour. In the other parts of the Western Dooars, irrigation is not resorted to.

Yield per acre—The Deputy Commissioner estimates a fair yield from *aus* land to be from 8 to 10 maunds of unhusked paddy per bigha or from 18 to 22 cwt. per acre. A fair outturn of *aman* or winter rice is stated by the Deputy Collector to be from 10 to 12 maunds of unhusked paddy per bigha or from 22 to 26 cwt. per acre.

Average land per agricultural family—A cultivator's holding exceeding 60 bighas or 20 acres in extent would be considered a very large farm, and anything below 15 bighas or 5 acres a very small sized farm for a husbandman. From 20 to 33 bighas or from 7 to 11 acres would be considered a fair sized comfortable

APPENDIX II—contd.

holding for a cultivator and amply sufficient to maintain his household. A single pair of oxen will plough between 5½ and 6 acres in Western Dooars, but a little over 4 acres in the east. The Deputy Commissioner is of the opinion that a small holding of 15 bighas or 5 acres in extent will not make a cultivator so well off as a respectable retail shopkeeper, nor would it enable him to live so well as a man earning Rs. 8/- or 16s/- a month. Generally speaking the peasantry are not in debt. The Rent Law of Bengal, Act X of 1859, is not in force in Western Dooars and hardly any of the cultivators there have acquired occupancy rights. In the Boda and Patgram divisions, in the Regulation part of the district almost all the cultivators are liable to enhancement of rent. There are no instances in Jalpaiguri district of small proprietors who own, occupy and cultivate their hereditary lands without either a zemindar or superior landlord above them or a sub-holder or labourer of any kind under them.

Rice constitutes a staple in all parts of the district. Of the total food supply, *aman* or *haimantik* rice, sown on low-lying lands, forms from 60 to 75 per cent.; the remainder is made up by the *aus* or *bhadoi* rice, sown on high lands and reaped in September, and by wheat and barley. Mustard seed is extensively grown throughout the district, cotton is the export staple of the Dooars, jute and tobacco of the Regulation tract.

Manuring in the form of cow-dung is used by all cultivators for special crops. Irrigation is commonly practised in the Western Dooars. *Aman* rice land is never suffered to be fallow, but the other crops are known to grow better if the soil has enjoyed an occasional rest. There is still some spare land uncultivated in the Regulation tract, and in the Western Dooars it has been estimated that about three-fourths of the land now waste, is capable of cultivation.

Yield per acre—The average produce of paddy or unhusked rice from an acre of land is about 22 cwt.

III 1903-04 Not available.

More than 700,000 persons or over 80 per cent. of the population are supported by agriculture, a larger proportion than in any district in Bengal. Figures for the year 1907-08 are given below:—

IV District Gazetteer, 1911	
Total area of the district	2,961 square miles
Forests	509 "
Area not available for cultivation	385 "
Cultivable waste other than fallows	616 "
Current fallows	42 "
Net area cropped during the year	1,409 "

The most striking features of recent years are the spread of cultivation in the Western Dooars and the increase in the area under jute, in some parts of the district, at the expense of the *aus* rice crop. The alluvial soil with which the greater part of the district is covered is very fertile; west of the Tista a superior variety of jute known as Rajganja is grown; often rice and sugarcane are also produced. In the low lands throughout the western Dooars coarse rice and jute grow abundantly and between the Tista and Torsa rivers very often crops of tobacco are produced.

In the permanently settled parganas of the district most of the available land is under cultivation and there is not much room for extension; a very large area is, however, capable of growing two crops if the people choose to sow them, and in 1907-08 the area cropped

more than once was 198,700 acres. In the Western Dooars cultivation is extending rapidly and extend at even a faster rate if more labour was available. In 1901-02 the area under jute was 59,800 acres and under tobacco 112,900 acres; by 1907-08 the figures had risen to 125,500 for jute and 119,400 for tobacco; most of the increase in the area under jute, and nearly all in that under tobacco has taken place in the Western Dooars. The total area under cultivation in 1907-08 was 901,900 acres of about 50 per cent. of the area of the district. Excluding tea, the principal crops are rice, jute, tobacco and mustard.

By far the largest part of the area under cultivation is under rice; the area under this crop in 1907-08 was 316,000 acres. In spite of the great increase in cultivation in the Western Dooars, the area under rice has decreased since 1901-02 when it was 637,000 acres. The decrease is entirely due to the increased area under jute. The cultivation of jute has increased at a very rapid rate and the area under this crop has more than doubled in the six years between 1901-02 and 1907-08. In the Regulation portion of the district the increase at the expense of the *bhadoi* rice crop, about 25 per cent. of the land which used to grow *bhadoi* rice being now devoted to the production of jute. The greater part of the increase has, however taken place in the Western Dooars. In 1895, when Sanders submitted his Settlement Report the area under jute was only 6,020 acres, and the crop was confined to the Mainaguri Tehsil, and grown mainly in the neighbourhood of the Kranti Outpost. It is now spread throughout the Western Dooars; all large areas of land are under it in the vicinity of Madarihah, the eastern terminus of the Bengal Dooars Railway, and it is fast extending into the Alipur Tehsil. The best variety of jute is that produced in Rajganj Police Circle. The same class of land which is suitable for *bhadoi* rice is also suitable for growing jute.

Tobacco is a very valuable crop and is grown largely in the Western Dooars, the best tobacco lands lying between the Tista and the Torsa rivers. The yield of an acre of land is from 6 to 8 maunds of tobacco.

The area under mustard in 1907-08 was 27,700 acres, but the crop gives little trouble to the cultivator and does not require much attention.

Maize which cover 3,000 acres in 1907-08, is cultivated mostly by ex-tea-garden coolies. Ginger is grown occasionally in the Boda pargana, but though it is a valuable crop it exhausts the soil and the cultivators do not care about it. Cotton used to be grown in some quantity by Meches and Garos in high lands towards the feet of the Bhutan hills, but the opening of the tea-gardens and the introduction of forest conservancy has put a stop to their useful method of cultivation by *jhuming*, and in 1907-08 only 100 acres were under this crop. It is probable that the cultivation of cotton will die out entirely in a few years, as the opening up of the district forcing the Meches to abandon their migratory habits, and to settle down to ordinary cultivation.

No improvements in agricultural practice call for notice except the abandonment of cultivation by *jhuming* by the Meches. The abundant rainfall and fertile lands of the district yield magnificent crops of rice and jute with a very little exertion on the part of the cultivator, and as long as he can obtain all he wants without much effort he has little incentive to adopt improved methods of cultivation.

Artificial irrigation is not infrequent in the Western Dooars where the number of rivers and streams afford great facilities for it. It is used for land on which *aman* rice is grown, but it is not sufficiently low to

APPENDIX II—contd.

ensure an adequate supply of water by ordinary means. The cultivators have small irrigation channels, locally called *jampois*, from any stream which seems suitable and their proceedings under careful watching, as the rivers in the Dooars frequently change their courses and it does not require much to divert the whole of the water from a river or stream down an irrigation channel. Cases have occurred in which the digging of irrigation channels has resulted to great damage to the Bengal Dooars Railway and to roads.

Yield per acre—The average outturn of *aman* rice is about 20 maunds an acre, but some of the lands in the Western Dooars yield considerably more than this.

The outturn of *bhadoi* (*aus*) rice is less than that of *aman* and varies from 16 to 20 maunds an acre.

The question of interference with the natural course of rivers is one of special importance in a tract where most of them are swift-flowing hill streams, debouching on the plains usually with strong high banks to control them. A period of drought will reduce all but the big rivers to a mere trickle, but a heavy fall of rains in the hills will convert them into raging torrents difficult to control and, therefore, to divert. A great mistake has been done in the past in not leaving a strip of jungle along the banks of all such water courses, for this has proved itself to be the only natural means of exercising any real control over their movements. Not only have the banks in too many cases been acquired for cultivation but no effective check has been possible over the cutting of irrigation channels, locally known as *jampois* and other forms of activity in the beds of rivers. The result has been that huge areas have been ruined by the rivers changing their courses and such changes in very many cases are directly traceable to *jampois*. The first flood of the season will scour the *jampois*, into a big channel, and each successful spare will continue the work till often the river turns bodily down the *jamboi*, and lays waste the whole tract of the country. Similar results, not infrequently, followed from efforts at river-turning on the part of the tea-garden managers and *jotedars*.

The policy of the Government in the past with regard to the training and tapping of rivers and drainage and irrigation generally has been so undefined that the vast majority of the tenants, tea-garden managers as well *jotedars* have come to regard this sphere of activity as one in which they can do as they like, and they have done so with unfortunate results in many places. The Deputy Commissioner is only called in when the mischief is well started. The new leases in the Dooars inaugurate a new policy. It is now stated in a clear and definite manner that the permission of the Deputy Commissioner is an indispensable preliminary to any form of activity connected with river channels, and that the Deputy Commissioner is empowered to remove any unauthorised works of this nature.

The backwardness of agriculture throughout the district is remarkable, more so as the climate is so favourable. Not only is the variety and in some cases the quality of the crops grown exceedingly meagre, but the implements of agriculture are absolutely primitive and agricultural livestock are of the poorest quality. No attempt is made to exploit the possibilities which the soil and climate hold out, but the cultivators go on doggedly growing rice and jute, rice and jute, and again rice and jute.

For the past seven years I made a series of experiments in Jalpaiguri itself in the growing of fruits and of vegetables from English seed, and I am convinced that there are very few horticultural products of any but really cold countries which cannot be successfully and

profitably grown in this latitude and climate. Vegetables which in Britain are hardy enough to withstand frost (and are popularly supposed to require a touch of frost) are hardy enough to stand up to the heat of these latitudes. I should add that my experience has shown that potatoes of the best quality can be grown in Jalpaiguri. In the Dooars almost every tea planter has a splendid vegetable garden and many have excellent orchards as well. I have found, however, a general tendency on the part of local *malis* to close down horticultural operations in March, their masters being as a rule too credulous in accepting the dictum of "*hogia*" as a statement of fact.

The district of Jalpaiguri produces practically no fruit of decent quality. Isolated cases of enterprise in this direction are found, and honourable mention must be accorded to the Totos of Totopara for the excellent oranges they grow and to the village of Debigunj where custard apples grow profusely and to perfection, but in the district generally one might almost say that good fruits are not to be had. There is no necessity for this. Excellent plantains, pineapples, leeches, mulberries, oranges, lemons and papiyas can be grown without any special trouble, while peaches will do quite well if left to themselves and with care and cultivation will attain a certain degree of merit. I have obtained excellent mangoes from trees planted by myself, says the Settlement Officer, and have not found the prevailing belief in a mango-destroying insect to be founded on anything like universal experience.

The following is a statement of land employment in the district. The pre-partition area has been taken into account in the post-partition territory.

Description	Area (in acres)
Cultivated area—	
(a) Bhadoi	187,950
(b) Aman	442,992
(c) Rabi	92,147
(d) Other crops	8,131
Gross cropped area	731,228
Dofasli	46,481
Net cropped area	684,747
Current fallows	83,592
Culturable area including current fallows	412,252
Area not available for cultivation	180,135
Orchards	4,756
Total area	1,281,890

The following is a statement of crops in the district (undivided):—

Description	Area (in acres)
Paddy:—	
(a) Aus	136,948
(b) Aman	434,562
(c) Boro	222
Wheat	577
Barley (oats)	1,703
Gram	31
Oilseeds:	
(a) Linseed	52
(b) Til	850
(c) Rape and mustard	47,616
Sugarcane	3,828
Jute	50,580
Tobacco	23,386
Khesari	94,482
Fruit and vegetable gardens	17,163
Potato	5,991
Total cropped area	744,748
Dofasli	46,481
Net cropped area	698,267

APPENDIX II—concl'd.

The following statistics show the general position of VI Ishaque Survey, 1944-45 cultivated and other lands:—

Description	Acreage	Percentage of the area of the district
Cultivated lands	988,861	57·66
Culturable waste (including 48,880 of reserved forests)	279,515	16 34
Unculturable (including 241,987 of reserved forests)	446,465	26
Jungles	81,166	..
Beels and marshy lands including rivers	71,069	..

It is not possible to compare these figures accurately with those of the last settlement as considerable portions of the district, *viz.*, the tea-gardens have been left out of the last Settlement. Apparently there has been a considerable decrease in the acreage under culturable waste, presumably on account of larger areas having been brought under cultivation due to increase in population.

The acreage under the principal and special crops is given below:—

Crop	Ishaque Survey	Settlement
Paddy:—		
(a) Aman	521,219	434,561
(b) Bhadoi	120,335	187,958
(c) Rabi	91,724	92,146
Jute	39,271	50,579
Tobacco	16,950	23,385
Tea	129,957	..

It will thus appear that of the different varieties of crops the acreage under *aman* only has increased considerably; this is due to the suitability of the soil for this crop as also for the high prices of paddy. There has been decline in the acreage under each of the other varieties of crops. The reasons appear to be (1) certain areas of Rajganj Police Station have been transferred to Darjeeling district subsequent to the settlement operations; (2) some portions of cropped areas have been converted into tea-gardens; and (3) the increase in the *rabi* and *bhadoi* crops has been of the same order as that under *aman* paddy which has more than counter-acted the reduction consequent on the transfer of the area to Darjeeling. The decline in the jute acreage is due largely to the enforcement of the Jute Regulation. The general productivity is more or less constant although tending to deteriorate a little on the western side of the Tista. Very little attention is paid to manuring.

The agricultural statistics of the subdivision are as under:—

Description	Sadar Subdivision	Alipur Duar
Total cultivated land	703,606	285,255
Culturable waste	198,253	81,262
Unculturable waste	224,871	221,594
Jungle	55,431	25,736
Beels and marshy lands including rivers	43,868	27,201
Aman	389,353	131,865
Aus	65,282	12,643
Cereals and pulses	14,164	13,852
Tobacco	11,194	5,755
Jute	33,991	5,380
Tea	80,613	49,344

The following is a comparative statement of Ishaque Survey and District Settlement figures (pre-partition):—

Description	Ishaque Survey	Settlement (1910)	Difference
Unculturable waste including water	446,465	180,135	+ 266,330
Culturable waste	279,515	310,404	— 30,889
Cultivated:—			
(a) Orchards	170,836	119,425	+ 51,811
(b) Aman paddy	521,219	434,562	+ 86,657
(c) Others	296,805	246,528	+ 50,277
Total area of the district	1,714,840	1,290,654	+ 424,186

Increase in *aman* area is 20 per cent. Considerable area of *aman* paddy found in tea estates which were not included in District settlement, cultivation in some deforested areas, land growing *aus* also grows *aman* in certain areas. Increase in district area due to inclusion of tea-gardens left out in the Settlement.

The following is a statement of density of population, per capita cropped and paddy areas in the district:—

Total population in 1941 census	1,089,513
Total area of the district	1,714,840 acres
Density of population per sq mile	403
Total cropped area (net cropped and dofash)	977,139 „
Per capita cropped area	·90 „
Total paddy area	599,162 „
Per capita paddy area	·55 „

APPENDIX III

Extracts from Dr. Francis Buchanan-Hamilton's Account of the District of Rangpur, 1810

(Sketches mentioned in the extracts have not been reproduced).

Topography

Rivers—Since the survey was made by Major Rennell, the rivers of this district have undergone such changes, that I find the utmost difficulty in tracing them. The soil is so light, and the rivers in descending the mountains have acquired such force, that frequent and great changes are unavoidable; so that whole channels have been swept away by others, and new ones are constantly forming. The nomenclature is therefore exceedingly difficult. After tracing the name of a river from some distance you all of a sudden lose it, and perhaps recover the same name at a distance of 20 miles, while many large rivers intervene, and no channel remains to assist in discovering the former connection. The old channels have not only lost a current of water; but have been entirely obliterated by cultivation, or by beds of sand thrown into them by newly formed rivers. In some instances different portions of the same river remain, while others have been lost, and the intervals are filled up by new channels, so that apparently the same river has various names in different parts of its course.

The confusion that has arisen from these circumstances is so great, that Major Rennell seems to have been overpowered, or unwilling to waste time on the investigation; and owing to the contradictory accounts given by the natives, he seems to have altogether avoided giving names to many of the rivers. In the transient view, which I had an opportunity of taking, my difficulties have of course been greater, so that in my description I am afraid that there are numerous errors; yet, I enter into it with minuteness, the changes to which rivers are liable in a country of this nature, being a subject upon which naturalists have as yet but slightly touched.

Rivers west from the Korotoya—Beginning at the west we first find the Mahanonda, which according to the report of the natives, arises from the lower mountains of Sikkim in the dominions of Gorkha, and for about five miles after descending into the plains forms the boundary between that kingdom and the Company's territory. It then for about six miles separates this jurisdiction from that of Puraniya, and then flows a long way entirely through that district, until it reaches the frontier of Dinajpoor, as formerly mentioned. So far as it continues on the frontier of Ronggopoor, the Mahanonda is inconsiderable. It has indeed a channel of no small size, being perhaps 300 yards wide; but in the dry season the quantity of water is trifling, and even in the highest floods does not rise over the banks. It rises suddenly and falls quickly, so that boats do not attempt to navigate it; and even in the rainy season it is only frequented by canoes, which ascend with difficulty, but aid in floating down a little timber. In dry weather its stream is beautifully clear.

From this district the Mahanonda receive three small branches, which arise from springs in the fields. The most northerly is the Trinayi, which joins the Mahanonda, a little south from Sonnyasikata. Next is the Ronchondi, which, arising in Sonnyasikata, afterwards separates this division from that called Boda. The third is more considerable, and takes its rise from the fields of Sonnyasikata by two heads, the eastern called Chokor, the western called Dayuk. After the junction this last preserves the name, and passing through the division of Boda, enters Puraniya, where I hope hereafter to find it. The next river, which I have occasion to mention is the Nagor, already described in my account of Dinajpoor. At present it takes its rise from a field just where the districts of Puraniya and Dinajpoor

join with this; so that it may be considered as barely touching the division of Boda.

Rivers connected with the Korotoya—The Korotoya, which at the commencement of this degenerate age (Kohyugo) formed the boundary between the dominions of Bhogodotto and those of Virat, now forms part of the boundary between this district and that of Dinajpoor. Its topography is attended with numerous difficulties, part of which have been anticipated in my account of Dinajpoor. It runs for about 45 miles through the centre of the north-west divisions of this district, and is then swallowed up by the Tista. I shall first describe this part of its course. By the natives of Gorkha, it is said to rise from the lowest hills of the Sikkim district, at a place called Brohmokundo; and immediately after leaving the hills it forms the boundary for a few miles, between Gorkha and the dominions of the Company. It then passes a mile or two through the latter, and enters a small territory belonging to Bhotan, through which it passes five or six miles, and re-enters this district as a pretty considerable river, which in the rainy season admits of being navigated. Its channel is not so wide as that of the Mahanonda, but it does not rise and fall so rapidly. More timber is floated down its channel than by that of the Mahanonda; and, when it has reached Bhojpoor, a mart in Boda, it is frequented in the rainy season by boats of 400 *mans* burthen. During this part of its course it receives from the west a river, which rises from the low hills of the territory of Sikkim with two heads, the Jurapani and Sango, which unite under the latter name in the division of Sonnyasikata, and in that of Boda fall into the Korotoya. Below this for some way, the Korotoya forms the boundary between Ronggopoor and Puraniya, when turning to the east it passes entirely through the former, and has on its southern bank a considerable mart named Pochagor, to which boats of 1000 *mans* burthen can come in the rainy season. It is however, only boats of 4 or 500 *mans*, that usually ascend so far. A little above Pochagor, the Korotoya receives from the north, a small river named the Chau, which rises from a field in the division of Sonnyasikata, and has a course of about 14 miles. Below Pochagor, the Korotoya receives from the same direction, a river named Talma, which, coming from the forests towards the frontier, has a course of double the length.

The Korotoya is now a very considerable river, and passes through the division of Boda, in part, however, separating that from detached portions subject to the Raja of Vihar, until it receives from the Tista a branch called the Ghoramara. The united stream for about two miles retains the name of Ghoramara, for the old channel of the Korotoya has become almost dry; but at Saldanga, a considerable mart, the Korotoya again resumes its name, and in the rainy season is usually frequented by boats of from 5 to 600 *mans* burthen.

The Korotoya then continues its course to the south-east for about three miles, when it joins the old Tista, and loses its name although it is at present the most considerable stream; but the immense sandy channel of the Tista announces its recent grandeur. In fact when Major Rennell made his survey, the great body of the Tista came this way and joined the Atreyi; but in the destructive floods which happened in the Bengal year 1194, the greater part of the water of the Tista returned to its ancient bed, and has left this immense channel almost dry. I shall therefore proceed to give an account of this channel as forming a part of the Korotoya. It is called as I have observed, the old (Buri) Tista, although from the course of the Korotoya it is evident

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that the original direction of the Tista must have been somewhat near its present track that is to the eastward. This Old Tista separates from the great river at a place called Fakirgunj, about 19 miles north from its junction with the Korotoya; and, except in the rainy season, is not navigable for canoes, nor even in the floods does it admit boats. Attempts have been made by orders of Government to restore at least part of the water, but the efforts have been vain, and the waters are still every year diminishing.

The water of the old Tista is soon still farther lessened by the separation of the Ghoramara, which joins the Korotoya, as I have before mentioned. The origin of this river is accounted for by the natives as follows. The deity of the Tista is supposed to be an old woman (Burithakurani), and is one of the common objects of worship (Grandelevata) among the simple pagans of the vicinity. This nymph being envious of the attention that was paid to a rival named Bodeswori, who had attracted the whole devotion of the people of Boda, detached a portion of her river to destroy the temple of her competitor for adoration. The river advanced in a direct line with the rapidity of a courser, from whence its name is derived; but through the influence of Bodeswori was swallowed up by the Korotoya. My informant, having been the priest of Bodeswori, may be reasonably suspected of a little partiality.

The Ghoramara receives two streams from the north. The uppermost named Pangga takes its rise from the woods of Sonnyasikata, and after passing for a considerable way through the division of Fakirgunj, enters the Ghoramara soon after its separation from the old Tista. West from this is another unimportant stream called the Jomuni or Yomuni, which is now swallowed up by the Ghoramara, and thus falls into the Korotoya; but I shall hereafter have occasion to treat farther of this river, and it seems clear to me when these names were bestowed on the rivers of this country, that is in all probability when it was first inhabited, that the course of the Tista was entirely separate from that of the Korotoya, and that the country between them was watered by the Jomuni. It must also be observed, that the part of the channel between the old Tista and the mouth of the Jomuni is not called Ghoramara, but is called Gabura, that is young; for rivers are supposed to be animated, and therefore many new channels are called by this name.

The old Tista, after having sent off the Gabura or Ghoramara, continues a very trifling stream in an immense channel, until it receives the Korotoya at Devigunj, a large mart opposite to the mouth of the Korotoya on the east side of the Tista. At all seasons canoes can navigate this portion of the river, and boats of 1000 *mans* are often loaded at this mart, but the vessels most usually employed contain from 400 to 600 *mans* of rice. The river continues nearly of the same size until it reaches the frontier of Dinajpoor about nine miles below Devigunj, and the name of old Tista continues to be given to it, until it reaches the mouth of the canal which connects it with the Dhepa, as has been described in my account of Dinajpoor. There it assumes the name of Atrivi, probably from some small stream that was there before the Tista burst through the Korotoya and forced its way to the south, which probably happened in a remote period, as no sort of fable nor tradition concerning the event is current in the vicinity.

A little below Devigunj, on the opposite side, the old Tista receives a small stream called the Bhulli, and still farther down a rivulet named the Pathraj, or Pathoraj, which for some way separates Dinajpoor from

Ronggopoor, and receives from the latter district two small branches, the Jhinaikhuri and Hathuri. It must be observed that the Pathraj is considered by the natives as an old channel of the Korotoya, which is gradually retiring to the north-east, and of course the portion now between the Korotoya and the Pathraj is considered as a part of Kamrup. A little below the mouth of the Pathraj the old Tista receives from the west a small creek called Joyram, which forms part of the boundary between this and Dinajpoor.

I shall now return to the Korotoya, but I must previously observe that the floods of 1794 seem totally to have changed the appearance of this part of the country, and to have covered it so with beds of sand that few of the old channels can be traced for any distance; and the rivers that remain seldom retain the same name for above three or four miles in any one part of their course. The name of Korotoya, in particular, is completely lost for a space of about 20 miles, and is discovered a little south from Durwani, as will be hereafter explained. In the intermediate space are some small rivers which it will be necessary to mention.

About five miles below Devigunj the old Tista sends to the east a branch called the (Mora) dead Tista, an old channel, which, at the time of Major Rennell's survey, seems to have communicated with the Jomuna; but that communication is now interrupted, and this branch rejoins the old Tista a little farther down, sending through the Dinajpoor district, towards the left, a small branch named Bhulli, which also rejoins the old Tista, near where it takes the name of Atrivi. The dead Tista even in the floods is no longer navigable.

Immediately to the east of the dead Tista is a small water-course called the Mammari (abode of Bees), which is probably some portion of the old Jomuna, a river that must be distinguished from the Jomuni, the one being on the right and the other on the left of the Korotoya, and the deities presiding over them are considered by the natives as of different sexes. The Jomuna now takes its rise from a field in the division of Durwani. It then for some way forms the boundary of Dinajpoor, and receives a small branch named the Bishdangra, which, when Major Rennell made the survey, seems to have been a communication between the Tista and Korotoya. The Jomuna then turns entirely into the district of Dinajpoor, and the remainder of its course has been already described. Near a market-place called Madargunj we again recover the name of Korotoya in a small channel formed by the junction of two others, named Khongra and Sorbomonggola. The latter, after taking a bend round Durwani, goes towards the south-east, and, joining another small rivulet named Chikli, assumes the name of Mora Tista, to which we shall have occasion to return. The Sorbomonggola at no season admits of boats, contains no stream in the dry part of the year, and in floods the water according to circumstances goes sometimes one way and sometimes another.

The Khongra rises in a small stream from a tank about three miles from its junction with the Sorbomonggola, but soon after separates again from the Korotoya, leaving it a dry channel, and enters the Dinajpoor district, where it soon bends round to rejoin the Korotoya; but immediately below the junction that river sends the Khorkhorya into the Dinajpoor district, and is again left an empty channel. In this condition it passes for some way, until rejoined by the Khorkhorya, a little north from the great road between Dinajpoor and Ronggopoor. In my account of the former district I have given a description of the subsequent part of its course. I shall therefore only remark, that in the lower part of its course, nearly

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opposite to Govindagunj, it has in the year 1809 suddenly altered its direction, and has thus thrown a portion of the Dinajpoo district on its eastern side.

In my account of Dinajpoo I have stated, that the same river, which below Ghoraghat is called Korotoya, above that town, for the space of about 18 miles, is called the Stishita or Tishita, and forms the boundary of the two districts. About 18 miles above Ghoraghat the Tista is joined by a small river called the Ghinayi, which towards the north forms the boundary between the two districts, and above this both banks of the Tista are in the Ronggopoor district for about 10 miles, where the river apparently changes its name, and is called the Jomuneswori or Jomuneswori, but although the Jomuneswori contains the greatest quantity of water, and is in the same direction with the Tista, it receives from the west a small river called the Mora Tista, which has a course of about 12 miles, from where, as I have before mentioned, it is apparently formed by the union of two inconsiderable channels the Sorbomonggola and Chikli. I think, that we may account for these strange anomalies in the nomenclature in the following manner. On the irruption of the Tista into the Korotoya, being by far the largest river and having deserted its original channel to the north, to which it has again returned, this immense body of water overwhelming all the neighbouring channels, retained its name, and then passed through the channel now called Mora Tista at Bhowanigunj, and passing Durwani came to the channel of the same name which passes Kaligunj, Radhanagor and Sahebgunj. There it received the Jomuneswori, then comparatively an insignificant stream. In process of time, the great body of water in the Tista having been diverted towards the Atreyi, the channel of the dead Tista became trifling, and being interrupted by other new streams was in some measure lost; but from the junction of the Jomuneswori to Ghoraghat, the quantity of water remaining still very considerable, the name of Tista was continued, until at Ghoraghat it joined the Korotoya, a river of the utmost celebrity in Hindu fable.

Having premised so much concerning this middle Tista I shall now describe its course, and the rivers which it receives. The Sorbomonggola the most western of these, I have already described, I shall therefore proceed to the Chikli, by which it is joined to form the Mora Tista. In the division of Dimla, on the frontier of Boda, there arises a small river called the Jomuni, it afterwards for some way separates Dimla from Durwani, and then passes a little way entirely through the latter district, until it is joined from Dimla by the Kolondora, a small stream. The Jomuni, I imagine, was originally a continuation of the river of the same name, already mentioned as running between the great Tista and Korotoya in the upper parts of their courses; but its channel has been now entirely overwhelmed for about 18 miles in length. After a course of about 8 miles it receives the Kolondora, as above mentioned, but immediately sends to the south-west a branch named Ranggamati, which also is sometimes called the Kolondora or deep river. After a farther course of about 5 miles the Jomuni receives again the water of the Ranggamati, and in the rainy season becomes navigable for canoes. About 3 miles below this, at a place called Babrijhar, without any evident cause, its name is changed into Chongra, an appellation which is soon lost in that of Osurkhayi. This last name scarcely has continued 2 miles, when the river divides into two branches. The western called Chikli, after a course of about 3 miles, joins the Sorbomonggola and assumes the name of Mora Tista. The eastern is called Nenggotichhira, and after a rather

long course joins the latter river.

The Jomuni is therefore again lost, having in a second place been swept away by the Tista. We shall however find it again; but in the meantime I shall proceed with the (Mora) dead or middle Tista, which about 3 miles from where we recovered it, at the junction of the Sorbomonggola with the Chikli, receives the Nenggotichhira, as just now mentioned. About five or six miles below this, the Mora Tista receives from the north a small river called the Akhira, which arises in the south part of Durwani from the river called Jomuneswori, and in the rainy season is navigable for canoes. About four miles below the Mora Tista receives a very considerable supply of water from the Jomuneswori, is no longer considered as a dead river, and is called merely the Tista. Until the dry season of 1808-9 this river at all times admitted boats of 5 or 600 *muns* burthen; but this year it has suffered a very great diminution, and is no longer navigable; what will be its state in the ensuing floods cannot possibly be known; but there is great reason to apprehend, that the commerce of the south-east parts of Dinajpoo, and southwest parts of Ronggopoor will suffer a very material injury.

In passing through the division of Molonggo the banks of the Tista have two marts, Sahebgunj and Gopalgunj. In division Vagdwār the Tista receives a large channel called the Mora Nodi, which at one time it has probably occupied. Soon after the Tista has assumed the name of Korotoya at Ghoraghat, it receives from this district a small river named the Akhira, which may once probably have been the same with the Akhira already mentioned. In which case the Jomuni must have then joined the Korotoya somewhere about Nawabgunj in Dinajpoo. At present this Akhira rises from a marsh in the division of Molonggo, and on the southern boundary of that division receives a small branch of the Ghaghot named the Horolaya. After this junction the Akhira passes about eight miles through the division of Vagdwār, and then, on the boundary between that and Pirgunj, receives from the north-west a small channel called Sonamoti, which comes from the same marsh, that gives rise to the Mora Nodi above mentioned. Immediately after this it communicates with a lake called Borahila, by a channel named Kholisajam. In the dry season, when I saw this, the water flowed through it from the lake to the Akhira; but below this, about 18 miles, in the time of the inundation the reverse is said to be the case. The Akhira joins the Korotoya, and in the rainy season small boats frequent it, so that it has on its banks a mart named Sokongujari, from whence the produce of the vicinity is exported.

Under Dinajpoo I have mentioned numerous marts, that are on west side of the Korotoya below its junction with the Tista. In this district Govindogunj is the only mart on this part of the Korotoya, but it is very considerable, and is the second town in the whole district. North from Govindogunj the Korotoya sends off a creek (Dangra) to join the Noliya, which will be afterwards described. South from Govindogunj the Korotoya sends off a branch named the Bhmti, which after a course of about 15 miles joins the Banggali, a river that will hereafter be mentioned. South from the Bhmti the Korotoya sends off a branch named Gojariva, which passes through this district, and then through Nator. On its bank is a very large market for fish, called Songkorpoor.

I now return to the Jomuni or Jomuneswori, which we lost, where it divides into two branches, the Chikli and Nenggotichhira. If we go east from thence about three or four miles to a market place called Boruya,

we find a pretty large river, which is called the Jomuneswori, and which no doubt has once been connected with the river of the same name by a channel that now is obliterated. This Jomuneswori comes as a considerable branch from the great Tista, where that passes through Vehar, and enters the Company's territory in the division of Varuni, through which it passes for three or four miles, under the name of Kheruya. It then passes for about fourteen miles through the division of Dimla, where it is called Deonai. In this division it receives a small stream from the north-west called Salki, and sends off a branch called Gongjikata, which soon rejoins the parent stream, after having received a small but perennial rivulet named Hangrigosha, near which are some remarkable antiquities. The river then passes for about 12 miles through the division of Durwani, in the northern parts of which it is called Changralkata; but in the southern as I have before said it assumes the names of Jomuneswori, which it retains in passing 13 miles through the division of Kumargunj, when it loses its name in joining the Mora Tista, as before mentioned. The Changralkata receives two small streams from the north-east, the upper named Chhatnai or Guptobasi, the lower called Sui. Both arise from marshes in the division of Dimla.

The Jomuneswori receives first the Bhogerkungra, which is a branch of the Dhajjan, a small river that rises from a marsh in the division of Dimla, and which, after having sent off the Bhogerkungra in division Durwani, joins the Jomuneswori in Kumargunj. About four miles before it joins the Mora-Tista the Jomuneswori receives a branch from the great Tista, which separates from that river in the division of Dimla under the name of Auliyakhana, and passes through it for about 12 miles running nearly parallel to the parent stream. It then inclines more to the South, and passes through the whole breadth of Durwani, which in some parts it separates from Dhap. In the upper part, where it passes entirely through Durwani, it is called Bullai, but where it forms the boundary between Dhap and Durwani, it takes the name of Khongra Ghaghot, and becomes navigable in the rainy season for boats of 500 *mans* burthen. South from Durwani it forms the boundary between Dhap and Kumargunj for about 10 miles, but about 4 miles above its junction with the Jomuneswori it changes its name to Kharubhangj, having joined with a small river of that name, which arises from Durwani under the name of Bullai, having formerly, in all probability, had a communication with that part of the Khongra Ghaghot, which is now called Bullai. On these rivers are several small marts, for the exportation of the produce of the country. I have already observed, that the middle Tista has suffered a very material diminution since the floods of 1808-9, and the same is the case with the Jomuneswori, Changralkata, Deonai and Kheruya, which may be considered as the same river.

The Tista and its branches—Having thus detailed all the rivers of this district connected with the Korotoya, which is in general its western boundary, I shall proceed to give an account of the Tista, the principal river by which the central parts are divided. The Sangskrita names of this river are said to be Trishna and Trisrota, the former implying thirst, latter three springs. According to the Pandit of the survey, the origin of this river as stated in the Kalipurana was as follows. Parbati the wife of Sib, was fighting with an infidel (Osar), who would only worship her husband. The monster becoming very thirsty prayed to Sib, who rather unreasonably ordered his wife to supply her enemy with drink. In consequence this river sprung from the breast of the

goddess in three streams, and has ever since continued to flow. It is said, that in the more polished dialect of Bengal these Sangskrita names have been corrupted into Stishta: but the people, who inhabit its banks, according to the plan of orthography which I have adopted, pronounce the word Tista. It indeed appears to me, that the word could not possibly have been better expressed in the English character, than it has been written (Teestah) by Major Rennell, and it is only for the sake of uniformity, that I have ventured to alter the orthography. I presume, that this is the original and proper name, and that the other appellations are corruptions, suited to answer the fictions of poetry, or to accommodate a derivation from the sacred language; for the names of rivers and mountains are those which are usually most carefully preserved, among the changes that take place in the languages of mankind.

According to the accounts of the Nepalese the Tista has its origin in Thibet, and after forcing a passage through the snowy mountains, which form the boundary of the Chinese empire, it enters the mountainous country to the South, and separates the present dominions of Gorkha from that part of Bhotan which is subject to the Dev Raja. The river, as it comes from the hills, falls down the precipices of a mountain called Rongdhong, beyond which the Bengalese never ascend. It is said to be 30 coss north from Jolpayiguri. The Tista enters this district at its northern extremity, where it is bounded by the country of Sikim subject to Gorkha; and continues for about 23 miles from thence to the boundary between the Company's territory, and that of the Dev Raja. It is there an exceeding large channel, from 600 to 800 yards wide, and at all seasons contains a great deal of water and a rapid stream; but its course is somewhat interrupted by stones and rapids. South from Rongdhong the wood cutters can float single logs to within ten or twelve miles of the Company's frontier, and to where canoes at all seasons can ascend; and with the assistance of these canoes floats are constructed for bringing down the timber. In the dry season boats of 150 *mans* burthen ascend to Paharpoor, near the frontier of Gorkha, and in the rainy season boats of 1000 *mans* burthen could go to the same place.

The Tista begins to swell in spring, and usually rises two or three inches between the 12th of April and the 12th of May, owing in part probably to the melting of the snow; but no considerable change takes place, until the rainy season. Immediately below Jolpayiguri the Tista has the Company's territory on both sides, and receives from the West a small river named the Korla, on the western bank of which Jolpayiguri is situated. It arises from the lower hills of the Sikim territory near the sources of the Korotoya, and passes through this district for about 24 miles. Canoes frequent it in the dry season, and in the floods large boats could ascend it a considerable way.

Below this a little way the Tista on its west side has Madargunj a small mart. Although it is there a very large river, boats of a greater burthen than 150 *mans* cannot ascend it in the dry season. In the rains those of any size may come. A little below this the Tista sends off a branch already described under the name of Buri Tista, and which in the time of Majors Rennell's survey was the principal channel. Even then, however, the former channel, to which the river has now returned, was not obliterated, and the names of Teestah river, and Teeshta nullah are given in the large manuscript copies of his survey, although he has left them out in his Bengal atlas,

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probably distrusting all the appellations given by the natives to the rivers of the vicinity, owing to the apparent confusion of their nomenclature. In the published maps, however, we find the remains of the lower part of the channel under the name of the Teestah creek.

On sending off the old Tista, the great channel turns to the East, and passing Byangkro, a mart in division Fakirgunj, it receives the Koya a small stream, which arises in Bhotan, and has on its banks a place of some trade called Jorpakri. The Tista then enters Vihar, through which it passes for 9 miles, and sends off the branch called Kheruya, that has already been described. The Tista then passes 4 miles nearly south through Varuni, where there is a mart called Khoyerullah. It continues running nearly in a south direction through Dumla, for about 7 miles, forming an island opposite to the town of that name which is a place of considerable trade. Here the Tista is joined by a rivulet named Singgahara, which comes from the North.

As the market place named Chirabhija the Tista turns suddenly to the east, and soon after sends off a small branch named the Aulva khana, that has already been described. About 4 miles below this the Tista receives from the north a small river named the Layutara, which rises in Varuni, and in some places forms the boundary between that and Dumla.

About 13 miles below this the Tista receives a small rivulet called Dhum; and 7 miles lower down a more considerable stream called Kumarlai, which has a course of 18 miles, and in the rainy season is navigable for canoes. About 10 miles from the Tista it receives the Dadai. This arises with two branches, the Dadai and Sui, from the great forest of Singhesworjhar on the frontier of Vihar, has a course of about 12 miles, and in the rainy season is navigable in canoes to Khorivari 16 miles from the Tista. About 4 miles below Khorivari the Dadai receives another small river named the Soniyajan, which rises in Vihar, and has a course of about 14 miles, but is not navigable. About 5 miles from where it joins the Dadai the Soniyajan receives a river of great length named the Singgumari, which enters Fakirgunj from Bhotan, and from thence has a course of above 24 miles, partly through the Company's territory and partly through Vihar. The Kumarlai joins the Tista with two mouths, immediately above the uppermost of which is Ghoramara one of the most considerable marts in the vicinity. Below the lower mouth of the Kumarlai the depth of water in the Tista increases considerably, and boats of 250 *mans* burthen can frequent it at all seasons.

Opposite to this the Tista sends off a branch, which when Major Rennell made his survey was a considerable river. In the language of the vulgar it is called Ghaghot; but its Sangskrita name is Ghorghora. The word Ghaghot has no meaning, having probably been derived from a language spoken before the introduction of the Bengalese. The Ghorghora may be considered as an alteration, made in order to procure a name, that has a meaning in the sacred tongue. I shall now describe this river, although it has lost much of its importance.

In the dry season the Ghaghot, where it separates from the Tista, is not at all navigable, even for canoes; but in the floods boats of 500 *mans* burthen can pass. It first forms the boundary between Dhap and Varuni for about 7 miles, during which it sends to the east a channel called the Bherbheri, which is dry except

in the rainy season, and after a course of about 10 miles joins the Manas.

The Ghaghot, after having sent off the Bherbheri, passes through Dhap and Kotwali for 19 miles, during which space it has on its banks Amirgunj, Betgari and Mahigunj, all marts from whence there is a considerable trade; and it has also on its banks the capital of the district, of which indeed Mahigunj forms a part. At Dhap the water has deserted the channel of the Ghaghot, which in most parts is quite dry, except in the rainy season, and the stream now follows a channel called the Ghorjan, which reunites with the Ghaghot, about 4 miles below Mahigunj. A little below this reunion the Ghaghot, on coming to the boundary of Molonggo, divides into three branches, the easternmost of which retains the name, and is soon rejoined by the middle one, which has various names, and includes an island and a market place between the two branches, into which it subdivides. In different parts of its course it is called the Bokra, Chomka and Burail. The western branch called Horolay goes to join the Akhira, and has been already described. From the place where this separation takes place the Ghaghot runs about 9 miles easterly, forming the boundary between Dhap and Molonggo. It there receives the Alayikungri, a branch of the Manas, which has a course of about 15 miles, passes through the eastern skirts of the town of Ronggopoor, and in the rainy season is navigable for canoes and small boats.

From this junction with the Alayikungri the Ghaghot runs about 18 miles southerly. About 5 or 6 miles below the junction is a mart called Jalalgunj, where the river acquires an increase of size merely, so far as would seem, from the lowness of the country. Even in the dry season it is there navigable for canoes; and for four months in the year it is frequented by boats of from 400 to 500 *mans*. Before the 1194 Bengal year it was navigable for such vessels throughout the year. For some years after that period it gradually diminished to its present size, and has been since stationary.

A very little below Sadullahpoor, which is twelve miles below Jalalgunj, the Ghaghot separates into two branches, the eastern of which is called Pagla. After a course of about ten miles this falls into a river called Kornayi, which is a branch of the Manas, and in fact now contains by far the greater part of the water of that river. About six miles after receiving the Pagla, the Kornayi joins the western branch of the Ghaghot, and loses its name, although it is a large river, and joins one of comparatively little consequence.

From the separation of the Pagla to the junction of the Kornayi the Ghaghot runs about eighteen miles, during which it sends off a small branch called Molongkhali, that in the lower part of its course is called Alayi, and will be hereafter described. In this part of its course the Ghaghot has a large mart named Bhorotkhali.

On the junction of the Ghaghot with the Kornayi both names are lost, and the continuation of these rivers is called the Banggali, which after a course of about 20 miles enters the Naylor district. About midway it receives from the west a small river named the Noliya, which arises from the northern boundary of Pirgunj, and after a course of 10 miles receives a supply of water from a large marsh called Athrayi, by means of a rivulet named Domjam. About 20 miles below that the Noliya is joined by a small chan-

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nel from the Korotoya, that has been already mentioned. About six miles farther down the Noliya receives the branch of the Ghaghot called the Alayi, which has a course of about 20 miles, and has been lately noticed. The united streams, about two miles below, join the Banggali. About five miles below this, the Bhmti, which has a course of 15 miles, but is little applied to the purposes of commerce. Nor indeed in this district have the banks of the Banggali a single mart of any importance.

To return to the Tista. About four miles below where the Ghaghot separates, it sends towards the south the Kolagechhe, which, after running parallel with the great channel for seven or eight miles, rejoins it with some of its water, for the greater part is sent to the south, and forms a very considerable river, the Manas, which I shall now describe. The word Manas, I am told, has no meaning in either the Sangskrita or Bengalese languages. Soon after leaving the Kolagechhe, the Manas receives from the Ghaghot the insignificant creek called Bherbheri, which has already been mentioned, and soon afterwards repays this accession, by sending a similar channel the Alayi Kungri to join the Ghaghot. On this part of the Manas is Gogghonta a mart, to which boats of 100 *mans* burthen can come at all seasons, and during the floods it is usually frequented by those carrying from 3 to 500 *mans*, although larger vessels might reach the place. The Manas runs through Dhap for about 17 miles, but except that just now mentioned, has no other mart on its banks. It then enters Olipoor, previously sending off a small channel named Ramon-kundo, which for some way forms the boundary between Olipoor and Dhap. This river, where I crossed it, was deep, and its channel muddy, which is almost the only instance of this kind of channel in the district. The rivers almost universally run on a fine firm sand, and towards the north are clear. The southern part of the Ramon-kundo I have not been able to trace, and I am uncertain whether it rejoins the Manas, or is connected with the Ghaghot. Soon after the junction of Gaburhela, the Manas has shifted its course to the east, and has left a large empty channel called the Dead (Mora) Manas, which in its middle is divided into two branches, the Naotana and Paotana. A little below the lower end of the Dead Manas, this river sends to the east a very considerable branch which is said to have been recently formed, and which is called Gorkata, from the encroachments that it is making on an old fortress. In the rainy season this is navigable for boats of 200 *mans* burthen.

The Manas passes through Olipoor for about 15 miles, and in that space has on its banks Nawahgunj, a considerable mart, to which boats of 300 *mans* burthen can come in the dry season. Not that the Manas is there comparable in size with the Tista above Ghoramara, although it admits of vessels of double the size; for this circumstance is owing to the extreme lowness of the south eastern parts of the country, in which the water is almost stagnant, whereas towards the north and west the declivity is considerable, and the rapidity of the stream diminishes the depth of the rivers.

The Manas then passes for about 14 miles to the south without either receiving or sending off a branch, when the greatest part of its water goes to join the Ghaghot through the Kornayi, as has been already described, nor has it in this space any mart of importance except Baroboldya to which boats of 400 *mans* can come at all seasons. The diminished stream of the Manas continues to run through this

district for about 20 miles, when it enters Nator. In this part of its course it is not navigable even for canoes in the dry season, and possesses no mart. A branch called the Ghorbhaggi or Dilayi separates from it, surrounds a considerable extent, and again rejoins.

I again return to the Tista, which in the space between its enlargement at Bhotmari to where it is rejoined by the Kolagechhe, a distance of about 12 miles, has four marts, Bhotmari, Bhullagunj, Kangkinya and Govordhon. The last is surrounded by a small branch of the Tista called Devnatherdoba, or Polasi, and this communicates with another branch called Galandi, or Monirdangra, both including two islands about 10 miles in length. By means of a short canal named the Bohonta, the Galandi communicates with a very large channel, which in the dry season has no stream, and even in the floods admits only canoes. It runs nearly parallel to the Tista, at about four miles distance towards the north, and extends about 16 miles above its connection with the Bohonta, and as far below, where it ends in a large marsh of the Boro Vari division, which is named Deyula. This large channel is named Mora Sungti, and seems to me to be an old channel of the Tista. Near its western end it communicates with the Maldo, hereafter to be described, by a short channel called the Dhoyolayi. South from that junction is a large marsh called Pungthumari; from this runs a small stream called the Buksula, which soon falls into another marsh called Hangrisa, and that sends forth a stream named Bhengteswor; which joins the Mora Sungti, a little above where it sends the Bohonta to join the Galandi, and which carries away all the water that the Mora Sungti had received from the above-mentioned marshes. About six miles below the mouth of the Galandi, the Tista becomes a less considerable stream, and sends half its water by a new and more direct channel, named on that account the Gaburhela, which after a course of about six miles joins the Manas, on the boundary of Olipoor division.

The Tista during this diminished part of its course, is still farther reduced by sending off the Bamni, a dirty crooked branch, which after a course of about 15 miles joins the Brohmoputro. About the middle of its course it receives by two months at a considerable distance from each other, a dirty channel called Potiyar Dangra. There is reason to think, that the Bamni may have formerly been a continuation of the Mora Sungti, as the upper part of the river between Durgapoor and the Tista is called the Gidari Durgapoor and Onontopoor on this river are small marts, and in the rainy season are frequented by boats of 300 *mans*.

A very little below Thetrayi, a small mart about nine miles below the separation of the Gaburhela, the Tista sends off a dry channel called Nephra, which joins the Gorkata above described, and then the Tista continues to wind with a bend to the north-east for about 10 miles, where it receives the Gorkata. On the Tista in this space, are five small marts, Olipoor, Ranigunj, Onontopoor, Sorarhat and Borobangk. In the rainy season vessels of 1000 *mans* burthen ascend; but in the dry season it is by no means navigable for larger vessels, that it is at Bhotmari.

I am persuaded, that formerly the channel of the Tista in this part of its course ran considerably more to the south; for very numerous large channels remain in that direction, and approach an old fortress, which seems to have terminated a line of defence, that extended from the Ghaghot at Sadullahpoor, and which probably reached the Tista; but in the present

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condition of the river this line of defence would have been totally useless, as there is nothing to prevent its eastern extremity from being turned.

From the junction with the Gorkata, the Tista inclines to the north-east, and when Major Rennell made his survey, joined the Brohmoputro about five miles distant; but this was neither its old, nor is it its present channel. This is now very small, or at least in the dry season contains very little water, and runs south, parallel to the Brohmoputro, for about 15 miles, leaving between a narrow neck of land, on which is situated the town of Chilmari. Above that place this Tista communicates with the Brohmoputro, by means of a channel called the Mora Dhorla.

Farther down the old Tista is separated from the Brohmoputro by an inhabited island, and sands, through which there are several openings, and at its lower extremity receives the Soruyi, one of its most considerable branches, of which I shall now give some account. Immediately after the junction with the Burail, the Soruyi sends off a large branch called the Kanayi, which is of great size, and formerly went with a winding course into the Nator district; but between the towns of Bhowanigunj and Dewangunj the Brohmoputro has made an irruption, and has carried away a great part of its channel. In return the Brohmoputro gives a large supply of water to the lower part of the Konayi, which now passes behind Dewangunj scarcely inferior to the mighty river, and threatens to sweep away the whole intermediate country.

Concerning the Dhorla.

Having now traced the Tista through all its wanderings and branches, I proceed to another river, which, although by no means so large, is still considerable. The Pandit of the survey says that its Sanskrit name is Dhovla, which signifies white, and he writes the vulgar name Dholia, which has the same meaning; but the word, as universally pronounced by the inhabitants of its banks, seems to have been accurately expressed by Major Rennell's orthography, Durlah. This word the Pandit, according to the orthography that I have adopted, writes Dhorla, which for the sake of uniformity I shall employ. As this word has no meaning either in the Sanskrit or Bengalese languages, it is considered by the Pandit as an impure corruption, while I consider it as the original appellation of the river. *H'ute*, it must be observed, is by no means an epithet well suited to the river. In the upper part of its course it is a clear stream, in the lower it is very dirty.

Concerning the upper part of the Dhorla's course I received no intelligence on which I could depend. From Vihar it enters the Company's territory of Patgang as a river with a large winding channel, which in the dry season contains a small clear stream, not at all navigable; but which during the floods is occasionally frequented by boats of 200 *mans* burthen; if however a few fair days happen, the boats are liable to be left dry. It passes through the Patgang division for about 15 miles, and then re-enters Vihar, from whence it returns very much enlarged into the division Borovari; for soon after the time of Major Rennell's survey it would seem to have received the greater part of the Torsha.

For some miles it forms the boundary between Borovari and Vihar, and there has on its right bank a considerable mart named Mogulhat. The river at this mart has for some years been diminishing, owing to part of the Torsha having been directed to other channels; but still boats of 300 *mans* burthen can at all seasons ascend so far, although the channel and

quantity of water which flows past seem to be very inferior to those of the Tista, which admits only of smaller vessels. From the place where both banks of the Dhorla belong to the Company, the river passes 14 miles through the division of Borovari, but winds exceedingly in its course.

The banks of the rivers in this district are scarcely anywhere higher than the other parts of the country, on the contrary they are in general very low; and the inundation, far from raising the ground by a deposition of sediment, seems gradually to be sinking the rivers deeper and deeper below the level of the plains, which in a country so well supplied with rain, as Bengal, is a fortunate circumstance. In this part of the course of the Dhorla, I had a most satisfactory proof of this circumstance. I saw three different channels, which the river has occupied, each gradually lower than the other, somewhat as represented in the sketch, No. (5). The river now occupies the channel, (No. 3). The channels Nos 1 and 2, together with the country to (a b), are now cultivated. The level spaces (c d) between the channels are in fact much more distant in proportion than is exhibited in the figure, which, by observing the exact proportions would have been extended to an inconvenient length.

On this part of the course of the Dhorla is a large mart named Kulaghat. Immediately above this the Dhorla receives a pretty little river the Rotnaya. This rises in Vihar, where it receives a branch called Gidari. On arriving at the frontier, it receives from the west a river called Maldo, which, for some way forms the boundary between Vihar and the division on Phoronvari. In its upper part the Maldo communicates with the Sungti by means of a channel named Dhoyolay, which has already been described, and, so far as I know, is the only anastomosis between the branches of the Tista and Dhorla. In the rainy season boats of 100 *mans* burthen can ascend the Maldo for a considerable way, but there is no mart on its banks.

From the junction of the Maldo with the Rotnaya, this river passes about 12 miles through the divisions of Phoronvari and Borovari, and enters the Dhorla by two channels, the northern of which is named Baromasiya. After having passed through Borovari, and having reached the boundary of Nakeswori, the Dhorla receives a river that is wider than itself, but its stream is not so rapid, and is very dirty. It is indeed said, that it is a dead river, and that in the dry season many parts contain no water. It is called Nilkumar; and, in the time when Major Rennell's map was constructed, seems to have received most of the waters of Vihar, but from its name, signifying "the blue youth," I suspect, that it was then a new river, and the greater part of the waters have gone to other channels, which perhaps were the original courses. In some parts the Nilkumar is called the Old (Buro) Dhorla, which would imply, that at one period it has been actually a channel of the Dhorla. There is no mart on its banks, and after it enters the Dhorla, that river proceeds by a very circuitous course to join the Brohmoputro, distant about 15 miles.

A few miles below the junction with the Nilkumar the Dhorla communicates with the Girayi, a small river which will be next described by means of a canal named the Kodalkati, which from its name (cut with a hoe), would appear to be artificial, although it would be difficult to say for what use it could have been intended. Immediately below this the Dhorla divides into 2 channels, which after a short course re-unite and from an island opposite to Kurigang. On this lower part of the Dhorla's course are 5 marts,

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Bhogdangga, Panchgachhi, Mogulbachan, Kurigang, and Beguya, from which goods are imported and exported at all seasons. The river does not increase in depth of water, as it approaches the Brohmoputro, and at its mouth has a bar, which in the dry season prevents the entrance of large boats.

Concerning the rivers, which fall into the Brohmoputro from the north, or from Uttorkul and Dhengkiri. The Girayi is a small river, which falls into the Brohmoputro, about 6 miles east from the Dhorla, and has a course of about 22 miles. It has very frequently shifted its channel, and has left many pools and water courses, some of which in the rainy season are navigable, and are in general called Mora Girayi. Of these the two most remarkable pass Nakeswori and Bhowangunj, both considerable marts, to which, owing to the low situation of the country, boats of 500 *mans*, or even larger, can come in the rainy season. The Girayi arises with 2 heads, between which is situated Gagla, another considerable mart, that enjoys similar advantages for exporting goods. The Girayi communicates with the Dhorla by means of the Kodalkati, as above mentioned, and enters the Brohmoputro by 2 mouths.

North from thence about 12 miles is a small creek, which after a short course ends in the Brohmoputro, and is called Dudkumar, having probably been at one time continuation of the river of the same name, that will hereafter be mentioned. The great Success of Major Rennell has an orthography that seems to me to express very accurately the common pronunciation of the name, as it does also the name of a river farther to the east, which will hereafter be described. The Pandit of the survey, however, says, that the eastern river should be written Sunkosh, and that Chhonnokosh, (*ortum e testiculis Dei Vishnu ducens*), is proper name of the western, a distinction which I shall adopt in order to avoid the ambiguity of two rivers of the same name in the same vicinity.

Major Rennell has called the upper part of this river Surradingah, and the lower Success, probably owing to his having been unable to trace its course through the northern parts of Ghurla (Goollah R.), which were then covered with forests. Tracing the river according to the ideas of the natives, I found, that its commencement consisted in a large sandy channel; which in the spring was dry, and which separates from the Godadhori, about 6 miles above Koyimari (Quemary R). This channel proceeds south west for some way, when it receives some water from the north by a channel called the old Chhonnokosh, and it seems difficult to assign a reason for its not being considered as the origin of the river, for at all seasons it is navigable for canoes.

Some way below the junction of the old Chhonnokosh, the river sends off a small branch named Sanas, which in the spring is a large sandy channel, that contains a small clear stream. At a little distance from its separation it receives from the east side a winding channel, in most places deep and marshy, which arises with two heads to the north and west of Koyimari. It is called Khali, which implies merely creek. Some way below that the Sanas divides into two branches. The one which goes to the west is named the Ghoriyal, and soon after rejoins the Chhonnokosh. The other has a very short course, when joining a very inconsiderable stream, that proceeds from a marsh, it takes the name of Duba. The Duba at this junction with the Sanas has on its banks a mart called Kaldoba, to which boats of 300 *mans* burthen can ascend in the rainy season. It joins the new Torsha, which will here-

after be described, about four miles north from the Brohmoputro.

On the banks of the Chhonnokosh, about five miles from the separation of the Sanas are two marts, Dimachora or Dimakuri, and Khyarvari. At all seasons boats of 100 *mans* burthen can reach Khyarvari. Immediately below Khyarvari the Chhonnokosh receives from the north-west a very large river, which the people called to me the Kaljani. It is, however, evidently the Surradinga of Major Rennell, a name which I could not pronounce so as to be understood by the natives of the place; but I am informed by a relation of the Raja of Vihar, that the Kaljani is formed by the junction of the Surradinga and Gorom. A small river, named the Dipok, enters the fork between the Kaljani and Chhonnokosh. The former, being by far the larger river of the two, Major Rennell, as usual with European geographers, seems to have considered as the proper Chhonnokosh, which probably induced him to curtail the territory of the Vihar Raja by about 200 square miles. He probably was informed, that the boundary extended along the Chhonnokosh, and therefore made it terminate on the Kaljani, where, as it goes along the Chhonnokosh to the Godadhori, and ascends the right bank of that until it reaches the same parallel of latitude as the other northern frontier of his territory.

The Kaljani is said in the 1801 or 1802 to have received a very large addition from the Torsha, which deserted its usual channel near Vihar, sent a large branch to join the Kaljani a little before that unites with the Chhonnokosh, and produced a very great change on the face of the country below. About 16 miles below the junction, the channel being unable to retain this immense body of water, a new branch broke out, which almost equals the Tista in size. It takes a retrograde motion for about four miles to the north, and then turns to join the Brohmoputro between three and four miles above the mouth of the Chhonnokosh, having in its course swallowed up the lower part of the Duba river, as above described. This great new channel, being considered, not unnaturally, as arisen from the waters of the Torsha or Toyorosa, as it is called in the sacred language, has received that name. It is said that since the floods, 1807-1808, a great part of the waters of the Torsha have returned to their former channels, but still in Spring, 1808, I found both branches of the Chhonnokosh vast rivers, and I suspect that the information is not well founded, as the people on the banks of the Dhorla and Hilkumar still complained in 1809 of a diminution of their water. On the low part of the Chhonnokosh are three marts, Subolpat, Birnachhora, and Patoyamari; and on the Torsha is Chhonbadha.

Several alterations seems to have taken place since the time of Major Rennell's survey, in the rivers by which the Chhonnokosh and Nilkumar are connected. The connection then seems to have been formed by a river running nearly west and east; but this is now interrupted near the east end. A marsh, called Khorgi, sends out a small water course of the same name, which joins the Chhonnokosh in the direction that Major Rennell represents, and this sends to the south a branch named Bolida, which joins the Chhonnokosh some miles lower down.

A river, called Phulkumar, or the "tender flower," comes from Vihar, and may be a branch of the Nilkumar or "blue youth," as represented by Major Rennell. It sends a branch to join the Nilkumar. The upper part of this does not seem to have been laid down by Major Rennell, and is named Gaimara, but

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its lower part is named Ghorar Danga, and seems to be the west end of the channel, which existed at the time of Major Rennell's survey, while the middle portion of his river is now a dry channel that connected two branches of the Phulkumar, and is called *Voginisukha*, or "the dry channel of herons." On reaching this the Phulkumar changes its name to *Dudkumar*, or "the white youth," which goes to join the *Chhonnokosh* at the same place with the *Bolidya*. In the rainy season, owing to the lowness of the country, these creeks and channels admit boats of considerable size, and Phulkumar, *Bolidya*, *Ravigunj*, and *Muriya*, are marts for the exportation and importation of goods.

Near the *Brohmoputro* the *Chhonnokosh* sends off a branch named *Ichhamoti*, which takes a bend to the west, and joins the *Brohmoputro* immediately below the mouth of the *Chhonnokosh*.

The *Chhonnokosh* joins the *Brohmoputro*, where that immense river, after having long run from east to west, takes a sudden bend to the south, and the two rivers, from the source of the *Sonkosh* to 40 or 50 miles below its junction with the *Brohmoputro*, form a boundary that is very remarkable. The degree of knowledge and the customs that have been communicated to the people of Bengal, both by Brahmins and Muhammedans, have made comparatively little progress beyond this line, the inhabitants to the east of which are many centuries behind their western neighbours.

Between the *Chhonnokosh* and the *Godadhor* are many very large water-courses, in which most probably one or other of these large rivers has formerly flowed. Although several of these at all seasons contain a great deal of water, yet in some places they are quite dry, and they have never any stream, and are now considered as lakes.

The *Godadhor* is said to derive its name from one of the titles of *Krishna*, which implies "the wielder of a mace;" but in order to suit the name for such a far-fetched derivation it has probably been altered, and *Guddada*, the manner in which Major Rennell writes it, seems to me to express the sound as pronounced by the inhabitants of its banks better than the orthography adopted by the Pandit, who is probably a good deal influenced by the sound of *Godadhor*, the river at *Goya* being familiar to his ear.

This river reaches the boundary of *Vihar*, has a large clear stream, and soon after receives from the west the *Raydak*, which is said to be the largest. Immediately below the junction, the dry channel called *Chhonnokosh* is sent off, as I have already described. The *Godadhor* forms the boundary between *Vihar* and *Bhotan* for some way, and then for about seven miles forms the boundary between the possessions of the Company and those entrusted to the management of the *Dev Raja*. It then has the Company's possessions on both sides, and where it enters, receives a small river, the *Bayonayi*, which arises from a marsh called *Chakma*. This marsh and river form the boundary between the Company's possessions and those under the *Dev Raja*.

From thence the *Godadhor* proceeds about 14 miles, and receives from the forest of *Probot Joyar* a small river arising with two branches, the *Silayi* which retains the name, and the *Sijooho* which joins it some way before it falls into the *Godadhor*. In the rainy season both the *Bayonayi* and *Silayi* are useful for floating the timber of the forests into the *Godadhor*, and the same purpose is served by three water-courses, named *Joldhaka*, *Dukhisukhi*, and *Shangreswor*, which

enter the *Godadhor* in the intermediate space, but which by the natives are called *Bils*, and do not receive the title of rivers.

About five miles below the mouth of the *Silayi* the *Godadhor* receives a very considerable river, the *Sonkosh* (little *Sunecoss R*). This enters the Company's territories from *Bhotan* in an exceedingly wild country, and there receives the *Gorupala*, which for some way separates *Porbotjoyar*, belonging to the Company, from *Kaymana* belonging to *Bhotan*.

From the frontier the *Sonkosh* runs south, between *Porbotjoyar* on the west, and *Klungtaghat* on the east, for about 15 miles, and then receives from the east a small river named *Dipok*. Immediately below this the *Sonkosh* has lately formed a new channel towards the north, and has deserted its old channel, and the remainder of its course runs very much to the west, in order to join the *Godadhor*, while it separates *Porbotjoyar* from *Changpoor* and *Jamira*.

During this space the *Sonkosh* receives from *Porbotjoyar* two small streams, the *Tipka* and *Chhatungri*. Nearly opposite to the latter it sends off a branch to join a channel of the *Brohmoputro*, which at some distance below joins the *Sonkosh*, and thus forms two islands. The *Sonkosh*, on approaching the *Godadhor*, does not join it by a straight course. It sends forward a branch named the *Sulmara*, which joins the *Godadhor*, and forms a third island. The *Sonkosh* then takes a large bend to the south, and enters the *Godadhor* about two or three miles from the *Brohmoputro*. The united streams fall into this great river, winding rapidly past the rocky shores of *Dhubri*, by a passage which is rather dangerous for boats, although within they afford the waterman an excellent shelter. In the rainy season both the *Godadhor* and *Sonkosh* are navigable beyond the Company's territory, and afford a ready means for exporting whatever may be produced in a very great extent of fertile country, and for supplying its inhabitants with whatever foreign luxuries they required; but the state of society encourages the growth of little else but reeds and forest, and the thinly scattered inhabitants are able to purchase no foreign commodity except a little salt and iron. *Koyimari*, however, *Vorundangga*, *Metyabo*, and *Dhubri* on the *Godadhor*, and *Parh* on the *Sonkosh*, are insignificant places, from whence some of the rude produce of the country is exported, and where salt and iron are sold. The *Godadhor* is at all seasons navigable to the frontier for boats of 100 *mans* burthen, but the *Sonkosh* is somewhat smaller.

The next river to the *Sonkosh* is the *Gauranggo*, or *Gourong* of Major Rennell, which orthography I would prefer, were it not for the sake of uniformly expressing the name as written by the Pandit by the same combinations of our letters. It is a beautiful little river, at all times navigable for canoes to the frontier of *Bhotan*, and in the rainy season would admit boats of a large size; but a little timber exported from *Varshi* is its only commerce. At that place, in the spring, it has a rapid clear stream, running in a bed of sand, and its banks being finely adorned with little hills, and better cultivated than the vicinity, are extremely beautiful.

Proceeding a little farther east, we come to the *Diblayi*, a smaller river, which in the spring is almost stagnant, but even then it is deep. It passes through a country, consisting of little hills, and swelling grounds covered with sal forests, and serves to float a considerable quantity of that timber into the *Brohmoputro*, which it enters to the west of a hill of the same name.

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The next river that enters the Brohmoputro is the Champanoti, a river nearly of about the same size with the Godadhor, that is like the Thames at Windsor; and like this last the two Indian rivers are rather turbid. It enters the territories of the Company a little north from Dhontola, where there is a little commerce. It then passes between two hills, and turns east to receive a small tribute from the Tuniya. Afterwards, it has a large bend to the south, passing the residence of the Changper family, and then turns west parallel to the Brohmoputro until stopped by the hill called Dhu, when it turns south, and joins the Brohmoputro. At the angle, where it turns south, it receives from the tall forests of north a small river, the Jomray, by means of which the merchants of Sallongcha bring down some timber. Immediately west from Yochopa, a small river named the Houpun, enters the Brohmoputro. It derives its sources from several marshes or lakes, especially from the beautiful piece of water called Toborong, and after a very winding course enters the Brohmoputro.

The next river that I shall mention is the Manas, which reaches the boundary of the Company's territory, as separating the district of Vijn, paying a tribute to the prince of gods (Dev' Raja), from some districts now subject to the Lord of Heaven (Swor-godey); that is, to the civil governor of Bhotan, and the nominal prince of Asam; and the river continues from thence to be in general the boundary between this said Lord of Heaven and the more powerful merchants of Leadenhall Street, until it joins the Brohmoputro at Yochopa, a distance of about 17 miles; but both parties possess on each side of the river some portions, that are not contested; and some other portions on both sides are keenly disputed by the owners of the lands, although no sort of interference, so far as I have learned, has ever been made by the superior powers.

Exactly where the Manas begins to form the boundary between Asam and Bengal, it receives from the north a river, that the natives call Ayt, which in the language of Kamrup signifies (mother). I could not make the people understand Barally, the name which Major Rennell gives to this river. The Ayt in the rainy season is navigable, and forms the boundary between Vijn and Khungtaghat, both the property of one person, but the former tributary to the Dev Raja, and the latter subject to the company.

The Manas in the dry season is navigable for boats of 50 or 60 *mans*, as far as Vijn, where the proprietor lives; but there is very little commerce carried on by its means. About 5 miles from its mouth it receives a small river named Kongiya, which arises a little beyond the northern frontier of Khungtaghat, and passes through almost its whole breadth. The Manas enters the Brohmoputro by two mouths, the eastern of which is the boundary of Asam and some dry seasons of late for the western, which was formerly the largest, has been closed by a bar at its mouth.

Brohmoputro—Having now reached the part where the Brohmoputro enters the territory of the Company, I shall proceed to give an account of that great river, so far as it passes through this district; but as it is of too vast a size for a cursory view from its banks to give any accurate notion of its various channels and islands, and as these have suffered almost total change since the survey made by Major Rennell, I am satisfied, that what I can say on the subject will prove very unsatisfactory.

The name Brohmoputro signifies the son of Brahma, the creator of the world, and from its grandeur, and from its being one of the greatest works of the creator on earth, it might in a figurative sense be entitled to that appellation; but such is not the derivation given by the learned. According to legend it owes its origin, to an adventure of Brahma with Omaghâ, the wife of a holy man named Santonu. The particulars are so extravagantly indecent, that I shall entirely omit them, and only state, that the affair ended in the production of a holy pool or lake, called Brohmokundo. For many ages this remained in obscurity, until Porosuram had occasion to pass, while he was stained with the blood of the kingly race, whom he had murdered. On account of the bloody actions of this incarnation of God the battle axe clung to his hand, nor could he separate this instrument of death from his grasp, in order to wash away the gore. While resting on the Brohmokundo, he observed a young black bull come up to his mother, who was alarmed at his appearance, and said, my son, in what manner have you lost your purity, and become black. The calf replied, mother, I have killed a Brahman. Then my son you must bathe in Brohmokundo, which has great efficacy in removing sin. The calf immediately went into the pool, and was restored to his natural white colour. On seeing this, Porosuram immediately followed his example, the battle axe fell from his hand, and all his stains were removed. Such is the manner, in which the profound sages of the east instruct the gaping multitude in the valuable duties of pilgrimage, and from what they say I am inclined to believe, that, even among the Pandits, there are many black calves, who have no doubt of the truth of such relations. This history goes on to represent Porosuram in a more amiable light. In order to supply mankind with water of such admirable efficacy, he cut the hills with his battle axe, and allowed the river to flow through its present channel. Brohmokundo, I have no doubt, is in the mountains of Thibet, near the sources of the Indus and Ganges, although the people of Kamrup imagine, that it is much nearer, in the north-east parts of the kingdom of Asam. This, however, I have no doubt, is a mistake, as in Nepal I heard from several persons, who had visited the spot, that the Brohmoputro, arises from the region called (according to their pronunciation) Manas-sarovar, which is a frozen territory containing numerous hills and lakes. The Brohmoputro of the Hindus is, therefore, the Sanpoo of the Chinese, as Major Rennell supposed. I should not indeed have thought it becoming to have given any confirmation to the opinion of a geographer so justly celebrated, had not he expressed to me his uneasiness concerning the doubts of Mr. Dalrymple, who in arranging the geographical materials which I brought from Ava, seemed to think with D'Anville, that the Sanpoo was one of the heads of the Ayrawati or river of Ava.

The Brohmoputro reaches the frontier of the Company's territory with a channel at least a mile broad, and where not divided by Islands continues nearly of the same width; but in several places these subdivide the channel into many branches, and enlarge its size, so that from bank to bank there are often five miles. In the dry season the water nowhere fills the channel even where narrowest. In the rainy season the river, except where there are a few scattered hills on its banks, every where overflows the country for some miles, and in many places deluges an extent of 20 or 30 miles in width, and insulates such small hills as are in the vicinity. It usually begins to rise in April, and in the beginning of May it increases still farther. This may in part be owing to the melting of snow, but in general I observed, that the swelling of

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the river, and the inundation were chiefly affected by the rains in the immediate vicinity of where I was. A few fair days always diminished its size, and it never rose much except after a very heavy rain. In June the rapidity of the river, as well as its size increased very much; and it is about the highest in the beginning of August. Towards the end of that month it generally falls considerably, and its current diminishes greatly in force. In the beginning of August and end of July, I observed, that, in passing over a rock at Goyalpara, where there was then a depth of at least 16 feet, the rapidity of the current occasioned the most violent whirlpools accompanied by a considerable noise, while in the beginning of October, although the rock came near the surface, the water glided smoothly over it. The inundation subsides in the end of August, and although the river usually rises once or twice in September and the beginning of October, it has never in these months been known to pass beyond its channel, which is both very wide, and deep.

The Brohmoputro in this district, is nowhere fordable at any season; but its navigation is not very easy. In the rainy season its current is remarkably strong, and below Dhubri is rather tempestuous, while the wilds above that place render the tracking by ropes difficult. In the dry season the vast number of sands render the navigation exceedingly tedious, and a great many trunks of trees, half buried in its channel, occasions some danger. At Goyalpara it is the most placid water that I have ever seen, and during the six months that I resided there, I did not above two or three times see its surface ruffled by wind; and even in very strong squalls not a single wave rose so high as to break. Except however its magnificent size, and the grand scenery of its bank, it is a disgusting river. Its water is the dirtiest, that I have ever seen; and in the floods is almost entirely covered with a scum of dusky foam intermixed with logs of wood, vast floats of reeds, and all manner of dead bodies, especially those of deer and oxen, which are almost as offensive as the half burned carcasses on the banks of the Ganges.

The islands of the Brohmoputro and its low banks are undergoing constant changes. Wherever its current is directed against their sandy sides, they are undermined, and swept away, but as the force of the current is always confined to a small portion of the channel, the sand thus carried away is deposited the moment it happens to escape out of the most rapid parts of the stream, and the deposition increases rapidly, whenever from the accumulation of sand the stream is more completely diverted to other parts. The sand is often so rapidly deposited, that it rises almost to a level with the inundation, and in such cases must always continue barren. In general however, when the water over a new formed sand becomes entirely stagnant, the clay and earth, that are suspended in the muddy stream, immediately subside, but this does not usually happen in the first year, at least the quantity of soil then deposited is usually small, and only enables tamarisks and reeds to take root, which they do with astonishing vigour, and give some degree of stability to the new land. The quantity of soil deposited in 3 or 4 years is usually sufficient to render the soil fit for cultivation, and brings it within a foot or two of the level of the floods. It is evident, that a deposition from the river can never raise it higher, although the dust collected by wind round bushes often raises some few spots a few inches above the high water-mark. The surface, however, of these islands and banks is by no means level; but swells so that some parts are near the level of the water in the highest floods, while others are covered to a depth of 20 feet; nor can this occasion wonder, if we consider the irregular manner in which the deposition must take place, owing to differences in the stillness of various parts of the water. Subsequent floods, if continued for

ages, would no doubt bring the whole to a level, by gradually depositing much mud, where the depth of water was great, and none where the earth had arisen to the level of the high-water mark, but time is nowhere perhaps allowed for such tedious operations, and there are probably very few spots in this inundated parts, that have continued for a century without having been swept away. These depositions in the common dialect of Bengal, when they are of a small size, and do not admit of cultivation, are called *Chora*, but when they are large, and especially when they are covered with soil so as to be fit for cultivation, they are called *chor*. In the proper dialect of Kamrup, these cultivable lands are called *Changpoor*.

The Brohmoputro, after reaching the frontier of the Company's territory, for upwards of 20 miles has the kingdom of Asam on its northern bank, while the southern forms part of British India, and part of the islands belong to the one power, and part to the other. In this space I have little to observe. The appearance of yellow cliffs on the south side of the river at (Commerputah and Bannat; R.) Kamarpota and Bohoti as mentioned by Major Rennell, seems now little remarkable, or indeed distinguishable from the common high abrupt bank of all other rivers. Above Goyalpara, on the same side, all the low land between the hills and river (Beneal atlas map, 18), since Major Rennell made his survey, has been separated from the continent by a channel, and now consists chiefly of Choras and islands, and the Krishnary river (Keestny R.) now enters the Brohmoputro immediately below Babi Pangah (Baby pointa R.), while the principal channel of the river comes between the sands laid down by Major Rennell as F. from Goyalpara, and the ruins of the adjacent low land.

Immediately below Goyalpara, the sands led down as on the opposite side of the river, have been forced to the south, and have formed between the town and river an extensive *Chor*, now partly cultivated, and the current is now washing away the opposite part of Asam where it has opened a new passage for the Manas, and in the dry season the old one contiguous to Yodighopa, (Jughigopa R.) is shut, as has been mentioned.

From thence to near Ranggamati I had no opportunity of observing the river, but I understood, that the long channel on its southern bank opposite to the hills called Dhr and Duddumar, (Dcheer and Doodkoar R.) still remains; as do also the three islands between Ranggamati and Dhubri (Ranggamatty and Dubarye R.), only that the Jinnamary creek of Major Rennell has diminished greatly in size, and the islands seem to be more cultivated than in his time. Immediately below the mouth of the long channel, which I have lately mentioned, the left bank has received great additions, and of course the right has suffered corresponding losses. I shall first mention the accessions of the left. These accessions are still surrounded by channels, which when small and dry, except during the floods, are usually called *Songta*. But, if these channels contain a stream throughout the year, the vulgar of Bengal call them *Dangra*. In the sacred language, naturally less copious than the Bengalese in a nomenclature of this kind, both are called *Sort*.

Beginning, immediately below the situation of Bosotandy in Major Rennell's map, we have a *chor* occupied by a small collection of farms called *Bhanggonmari*. This is separated from a larger *chor* by a channel called *Songta Khaoya*, which at all seasons contains a small stream. On the other side this *chor* is bounded by a larger channel called the *Paglia*. It contains three collections of farms, *Bhakuyamari*,

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Baoshkata and Basarchor, part of which however is on a still larger chor, situated on the other side of the Pagla. A little below the Songta Khaoya is lost in the Pagla, and this channel is joined by a river from the interior called Koliya, which will hereafter be described. Where it now joins the Pagla, its channel is dry; but soon after its name is recovered, passing out on the opposite side of the Pagla to join an old channel of the Jijiram, a river that will be hereafter described. The old Jijiram soon after sends a branch to the Brohmoputro, which is named Songta Khaoya, and together with the Jijiram Koliya and Pagla encircles a large chor, on which, as before-mentioned, is situated a part of the collection of farms called Basar chor, together with Pochar chor, Madarer chor, and Chandar chor, which, when Major Rennell made his survey, was far to the south-west on the opposite side of the Brohmoputro.

A new channel called Bangskatarsongta, which now conveys the water of the Koliya into the Pagla, together with the old channel and the Pagla include a small chor not inhabited, but violently disputed between the neighbouring landholders.

South from thence an old channel of the Jijiram, its present channel and the Pagla include a chor, that is well occupied, and when Major Rennell made his survey, seems to have been on the banks of the Brohmoputro, being apparently the grove of trees represented north-east from Rajabella, on what he calls the Monee creek. Now, however, two very large chors intervene between it and the Brohmoputro.

The first is bounded on the east by the present channel of the Jijiram, which occupies nearly the situation of Major Rennell's Monee; on the north and east by a channel, which is called the old (Buri) Jijiram; for in the short period, since Major Rennell surveyed the country, we have not only the formation of a river called the Jijiram, but here is one channel, and we shall soon find another that have acquired the name of old. This old, and the present Jijiram uniting form the southern boundary of the chor, which is intersected by an old branch of another old Jijiram called the dry Khyartola. On this chor are several collections of farms, among which is Rajabola, in which we trace the Rajabella of Major Rennell. This is on the east bank of the old Jijiram, which must therefore be the Monee creek.

Beyond the old Jijiram, and between it and the Brohmoputro, is another chor abounded on the north by a channel connecting the two rivers, and called Songta Khaoya; and on the south by the present Jijiram. This chor is still inhabited, but the Brohmoputro has begun to return upon it. North from that Songta Khaoya, and bounded on the other sides by the Brohmoputro and Pagla, is a very large chor, and among its hamlets we trace the Barabanga of Major Rennell in the Berabangga of the present day, and the origin of the name Monee creek may be discovered in the village Monirchor. Both villages have moved far north, the inhabitants of these regions having no fixed abode. Indeed the lower part of the Monee creek has been swept away, and the Brohmoputro now approaches within less than two miles of Singgimari, which is situated at the north end of the southernmost of the hills, which seem to have been called Rajabella to Major Rennell, from his having viewed them over that village, when he asked their name.

South from the old Jijiram before mentioned, east from the present Jijiram, and west from another channel called also the old Jijiram, is another large

chor, bounded on the south by the junction of the last mentioned old Jijiram and the present channel of this river. This chor also is divided into two portions by a branch of the Jijiram called Khyartola, which here contains much water. This was a fine country until the late disputes of its proprietor with the Garos, since which it has been nearly deserted.

Such are the encroachments and concessions, which the Brohmoputro has made on its left bank in passing through this district; for Singgimari is now on the boundary of Moymonsing. On the right the Brohmoputro proceeds almost straight west from Dhubri, until it is joined by the Chhonnokosh, and has carried away many islands, chors, and villages. The Putyamonri of Major Rennell has been removed to the bank of the Chhonnokosh, seems now to stand nearly where Poonkur did then, and is within half-a-mile of the Brohmoputro. Below the mouth of the Chhonnokosh, again, the right bank of the Brohmoputro has been gaining, and the channels on that side have been diminishing, so that many of the chors and islands have united with the main, but I had no opportunity of being able to trace the alterations in a particular manner. Near Chilmari, again the right bank begins to lose, at Bhowanigunj the loss is more considerable, and at present, as I have said before, the river threatens to carry away all the vicinity of Dewangunj, and perhaps, to force its way through the Konayi into the heart of Nator. On the left bank, of course, the river is here gaining ground, several large chors have formed and add to a corner of the district that is situated on that side of the river, and which has not been separated, when all the adjacent lands of Kuri-gang were lately annexed to the Moymonsing district.

Concerning the rivers which fall into the Brohmoputro from the south or from Dokhymkul. I shall now return to the frontier of Asam, and describe the rivers, which join the Brohmoputro from the hills on its left bank.

The Marki, which the Pandit says, should be pronounced Markori, is a small river that arises from the Garo hills towards the frontier of Asam. It flows north through the whole breadth of the Company's territory, and entering Asam, soon after joins the Dev'sila.

The Dev'sila is a more considerable, and a very beautiful little river like the Trent at Newark. It arises from the east side of the highest of the Garo hills, that are seen from the plain, and loaded canoes can at all seasons pass up almost to the foot of the mountains. Near this is Chamagang, a place where some trade is carried on with the Garos. This river is called Dev'sila, and passes into Asam, where, after receiving the Marki, it runs a considerable way parallel to the frontier. During this course, it receives from the Company's territory a small dirty stream called Juriya or Jholjhol. On coming within a few miles of the Brohmoputro, it joins a river of Asam named the Kailasi, which is alleged to have formerly been the boundary, as Major Rennell seems to have supposed; but now no part of the Kailasi passes through any territory that is subject to the Company. This encroachment of the Asamese is said to have happened sometime between the years 1770 and 1780, when six small districts (Mauzas) were taken by force from the Vijnai Raja, then only, I believe, tributary to the Company.

Immediately before entering the Brohmoputro, the Kailasi receives another less considerable river, named Kornayi, which arising from the west side of the same great mountain, that gives rise to the Dev'sila,

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has on its bank a place of trade named Raumari; and runs north until it passes all the hills, when it separates into various branches, and forms a diminutive delta in the low banks of the Brohmoputro. Its eastern branch preserves the name; and, after enclosing a considerable piece of land by a branch called Jiharangga, falls into the Kailasi. The western boundary of this delta is called Geruya, which runs north-west until it reaches within about a mile of the Brohmoputro, when it separates into two. One branch runs east, forming an island by means of a channel called the Kusarvarirdangra, and then joins the Kailasi, where that river receives the Kornayi. The other branch of the Geruya runs west, and joins the Phulnayi near its mouth. The Geruya, near where it separates from the Kornayi, receives from a large marsh on the frontier a channel called Odlar, which seems to have been an old course of the Kornayi.

The Phulnayi is a still smaller river than the Kornayi, and runs north and west to join the Brohmoputro, which it does by a deep and wide passage, very difficult to cross with cattle, as its bottom is a soft mud. On its upper part is Ronggojuli, a mart for trading with the Garos.

Next is a somewhat more considerable river, which arises from the Garo mountains with four heads, the Rongronga, the Chungchiya, the Chipna, and the Kochudhoya. These uniting form the Habiri, which joins the Brohmoputro at Bohoti (Baahati R.) and in the rainy season admits of the transportation of goods in canoes. It communicates with large old channels, which extend a considerable way west, parallel to the Brohmoputro.

The Dudnayi contains a turbid stream, but deeper than any hitherto mentioned in these parts, as at all seasons of the year canoes can ascend to a place called Dhepa, which is among the Garo mountains, and it has on its bank a place named Damra, where the Garos export and import some goods. Soon after leaving the mountains it receives another turbid stream called the Chila, and it runs almost straight north to join the Krishnayi, near where that river falls into the Brohmoputro.

The Krishnayi comes from a deep recess in the Garo mountains, has a pretty large stream, which at all seasons of the year is navigable for loaded canoes. In proceeding north it receives the Krodong, a little stream from the west, immediately below which is Jira, one of the chief marts for dealing with Garos. South from this it receives from the east another small river named the Kirang. It then passes Haworaghat, once the chief place of the vicinity, and which still retains a little trade. It then runs a considerable way nearly east, joins with the Dudnayi, and immediately after falls into the Brohmoputro, a little below Bibipaingti.

The Jijiram, by far the most considerable river of these parts, which the then impenetrable nature of the country prevented Major Rennell from observing, but which I was able to trace, partly from the country having become somewhat clearer, and partly perhaps from my suite being more adapted for overcoming difficulties. The Jijiram comes from the south-end of the lofty Chorehachu, which forms the north-western extremity of the Garo mountains. It is there a pretty considerable river, and its source is said to be at a great distance towards the east; but this is doubtful, the Garos being reserved, and the Bengalese rarely venturing to visit the country. The Jijiram enters the low country in a waste relinquished to elephants; but soon flows into a beautiful valley in which is situated

Nivari, one of the chief marts of the Garo trade. At all seasons loaded canoes can reach thus far. At Nivari the Jijiram receives a fine clear stream, the Islami named after a Moslem saint. It rises from the hills above Jira, and passes through a richly cultivated valley which in beauty equal the finest of Malabar. The Jijiram then passes through a wide low valley above 14 miles in length; but the river winds exceedingly. About the middle of the valley is Magurmeri another Garo mart, above which the Jijiram receives from the south-west a rivulet named the Rongkhati. Near the lower end of the valley the Jijiram divides into two branches. In the dry season that which goes towards the south-west for some way, contains no water; but having been the original channel of the river, it retains the name, and in the rainy season loaded canoes can pass through to Singgimari.

I shall now however proceed to describe the eastern branch, by which in the dry season the whole water of the river passes, and which is named Bolboli. Soon after separating from the dry Jijiram, this channel enters Urpoterdola a very large marsh, and turning east joins a very small rivulet named the Jhinri, which however, gives its name to the united stream, the Bolboli being in all probability of a very recent date. The Jhinri rises from the south end of the Jira hills, and runs south, until it receives the Bolboli. It then is enlarged by the draining of the marsh, through which it passes to the east, and joins the Brohmoputro about six miles above Goyalpara. When Major Rennell made his survey, it would appear, that a large extent of low land bounded the Brohmoputro in this part, and brought the united streams of the Krishnayi and Jhinri close to Goyalpara; but now the two streams enter the great river about three miles from each other, and do not approach the town.

The other branch of the Jijiram, which retains the name, after having continued some way as a dry channel, passes between two hills Agriya and Paglijhora; but, before entering the passage, receives some drainings from the large marsh called Urpoterdol, and acquires a little stream, which it gradually increased by numerous rills that fall from the mountains, among which it passes for about 22 miles, through a most beautiful valley. The most considerable of these rivulets are the Tisonpoor, Boroghora and Dailong, and afterwards it winds through the inundated country; but in general at no great distance from the hills, until it reaches the Brohmoputro soon after having washed the rocks of Singgimari, which are the only staple part in this long course of between 30 and 40 miles. Its channel of course is constantly undergoing changes, both from the action of its own water, and from that of the Brohmoputro. Most of these have already been detailed, I shall therefore at present confine myself in mentioning the rivers, which it receives from the hills.

The first of these is the Dherchi, which passes west from Hatogong, at present the chief place of Michpara. About 12 miles below its entrance into the low country, the Jijiram has increased very much in size, and at Chalitavari, a Garo mart on its banks, boats of 200 *mans* burthen frequent it at all seasons.

Some way below Chalitavari, a very considerable river comes from the desert in several branches, named Ojagor, Ojanggor, Ghangoya, Kukurkata and Dhor-dhora, which wind about and intersect each other in a manner that I could not exactly comprehend, in passing through a country where the reeds often intercepted my view although I rode on an elephant. Of these branches the Ojanggor is the most considerable. Among them are situated the original seat of the Meehpara family, and Silapani a Garo mart. Opposite to where the Jiji-

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ram receives the Ojanggor is another Garo mart named Singgadubi.

A few miles below Singgadubi, a river named Ronggai enters the left side of the Jijiram, and has on its side a Garo mart Banggalkhata, to which boats can ascend at all season. A little below this the channel of the Jijiram has twice shifted its course, as formerly mentioned. On the present channel are Teltari and Rajahola, two Garo marts. A little above Singgimari hill it receives the Kolongki, a considerable river which separates Kalumalupara of this district from Koroyivavi, now annexed to Moymonsing. A very little below the mouth of the Kolongki the Jijiram receives a small creek, the Ghoramara, which for some way also separates the district from Moymonsing, and then it enters the Brohmoputro by two mouths.

General remarks—The numerous gradual changes, that are constantly taking place in the rivers of the district, are attended with much inconvenience. One person's property being carried away, and another's enlarged, while the tax of both continues the same; the one becomes unable to pay what the government demands, and the other is suddenly enriched, and acquires habits of expense, which on the next change of the rivers he is unable to relinquish. No one thinks of raising buildings of a durable nature on so precarious a foundation; so that the wealthy have little comfort in their dwellings, and the country is destitute of ornament. Still however the people in these changes sustain no violent injury. A village of Bengal is removed four or five miles with very little inconvenience indeed, and such a change of place may be considered as nothing more than an usual casualty, such as an inconvenient shower which produces on the people an effect of consequence; for even in common there are very few houses, that last three years, partly from the slightness of the materials, and partly from the frequency of fires.

It is only when very sudden changes take place that great evils arise, and none such has happened since the year of the Bengal era 1194, or for 20 years before this year 1809. The change which then took place in the Tista, owing to a great storm, was accompanied with a deluge, by which one half of both people and cattle were swept from the whole of the country near the new source, which the river assumed. The means, that I have proposed in the account of Dinajpoor, for preventing sudden changes in the course of rivers, can only, it is evident, have a considerable effect on those of a moderate size; and to prevent the changes, which take place on bodies of immense power as the Brohmoputro or Tista, may be considered as far beyond the effects of human industry.

Lakes and Marshes—In this district there are several bodies of water, that are entitled to the appellation of lakes, although they are not so clearly distinguished from marshes as the more beautiful lakes of the northern regions of Europe and America. It may also be observed, that since the time of Major Rennell's survey they would appear to have diminished both in number and size. In the numerous changes, that take place in the rivers of this district, many of these lakes have been drained; and by the natural deposition, that takes place from the waters of a muddy inundation, when these reach a stagnant lake, it must gradually be filled; while the operation is assisted by the most vigorous vegetation of aquatic plants, which often form a crust, that is capable of supporting cattle, and gradually converts the lake to a marsh. Indeed the same name (Bil) is by the natives given to both.

The numerous changes, that happen in the courses of rivers, and the great size of those in this district, have

left very numerous pieces of water, which in the language of the natives are called Jhils; and in this district which is moister than Dinajpoor, and seems to contain more numerous springs, these channels are in many places filled with water throughout the year, and often resemble small lakes, some of which are very beautiful. They no doubt are gradually obliterated; but where there are many springs this process seems to advance slowly; and when in the course of the process, the water of the springs begins to be confined, and exceeds the quantity that can be evaporated from a small surface, it again assumes the appearance of a stream, which forces a way to the nearest river.

Air and Weather—Although the air and weather of this district must have a strong general resemblance to those which in the adjacent district of Dinajpoor, that occupies nearly the same parallels of latitude; yet the greater proximity to the mountains has a considerable effect, especially in comparing the eastern parts of this district with the western parts of Dinajpoor.

The first and most essential difference as most affecting the productions of the two countries, is, that the springs of Ronggopoor are moister and earlier than those of Dinajpoor. In both of the seasons, that I have passed in the country, there has been a great deal of rain in the end of March, in April, and in the beginning of May, not in short irregular squalls from the north-west, although these occasionally happen, but in very heavy showers, often without wind, and more frequently with moderate winds from the east. Hail seems less common, although I observed one very heavy shower. The dews also continue throughout the spring, and indeed at all seasons when there is no rain. Neither are the heats of spring so scorching and parching in this district as towards the west. Even in its western parts, what are called the hot winds seldom continue more than 8 or 10 days in the year, and in the eastern parts are so little known, that the natives could not comprehend what may Calcutta people meant, when they described these oppressive gales. The heats of May are tempered by the eastern winds, especially towards the frontier of Asam; and at Goyalpara the thermometer during that month was often so low as 70° and never rose above 80°. From the beginning of June until the end of October the sensation of heat was great; but this was owing to the calmness of the weather, for I never observed the thermometer higher than 84°. About the middle of October the nights there became tolerable; but the days continued hot until December. In that part of the country easterly winds prevail 10 months in the year; but for four months after the middle of October they incline to the northward. Westerly winds prevail from about the middle of February, until the middle of April, when the east winds recommence, and refresh the earth with coolness and gentle showers; but they often alternate with southerly breezes.

During the cold season fogs are exceedingly prevalent at Goyalpara, and the natives pretend from their abundance to foretell the quantity of rain that will fall in the ensuing year; heavy fogs are followed by heavy rains, and on the contrary light fogs are succeeded by scanty rains.

In the western parts of the district the weather approximates nearer to that of Dinajpoor, or rather is in intermediate state between the weather of that place and that of Goyalpara. Mr. Gibson has had the goodness to furnish me with the observations which he made on this subject, while surgeon to the station, and which, as more certain and satisfactory, than the vague opinions of the natives, I have copied in the appendix,

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although it is much to be regretted, that his observations do not even complete one year, much less do they extend to a length, which would enable us to draw general averages, on which full dependence could be placed.

In the northwest part of the district, the east winds prevail as much as at Coyalpara, and the west winds are common only for two months; but north winds are rare, except squalls accompanied by thunder and rain; and in the violence of the rainy season southerly winds are common. Towards the frontier of Dinajpoor, in that part, the hot winds are stronger than in most parts of the district; but towards the boundaries of Bhotan and Gorkha they are not known; and if I understood the natives rightly, they occasionally have hoar frost in winter.

Earthquakes are very frequent. Some years indeed there are none, but in others, as this year, (1807) here have been three, or even more. They have always been slight, so as to do no manner of injury; and by the simple natives of the eastern part of the district are considered, as a clear proof of the country being a favourite residence of the Gods; for it is supposed to be the heavy tread of these powerful beings, that occasions the motion of the earth.

II

GENERAL VIEW OF THE HISTORY OF RONGGOPOOR

The history of this district is perhaps involved in still greater obscurity than that of Dinajpoor. Almost the whole of it is included in the ancient Hindu territory of Kamrup, which extends east from the Korotoya, where it joined the kingdom of Mutsyo, to Dikkorbasini a river of Asam, which enters the Brolmoputro a little to the east of the eastern Kamakhya, which is said to be 14 days journey by water above Jorhat, the present capital of that kingdom. I have not been able to learn that the ancient Hindus mention any kingdom as intervening between Kamrup and China. Those whom I have consulted seem to think, that Kamrup is bounded on the east by Chin', by which, however, it must be observed, is probably meant the country between the Indian and Chinese empires; for, as Abul Fazil justly observes, the Chinese empire is the Maha-Chin' of the Hindus. He indeed calls Pegu the China of the Hindus; but in this he is only to be considered as mentioning for the whole, what was then the principal kingdom; as now we might say, that the empire of Ava is the proper China of the Hindus; and in fact it now separates Kamrup from the Chinese empire or Maha Chin'. On the north Kamrup extends to Kongjogiri, the frontier of Modro, the kingdom of Sailyo, which comprehends Bhotan. I have not however, been able to learn where this mountain is placed, and the Bhooteas seem to have made large encroachments on the whole northern frontier of Kamrup. The southern boundary of Kamrup is where the Iakhya river separates from the Brolmoputro, and there it is bounded by the country called Bonggo. Kamrup, according to this description, includes a portion of Moymonsing (north part of Dacca R.) and of Srihotto (Silhet R.) together with Monipoor, Jaintiya, Kachhar, and Asam.

The earliest tradition concerning the history of Kamrup, is, that it was given by Krishna to Norok, the son of the earth (Prithivi). The Norok, although an infidel (Osor), was for some time a favourite of the god, who appointed him guardian (Dwarpal) of the temple of Kamakhya (granter of pleasure), who naturally presided over the region of desire (Kamrup).

This deity is by the Hindus considered as female, and her temple situated near Gohati, the place where Norok resided, is still much frequented.

Kamrup is said to have been then divided into four Piths or portions, which may naturally be expected to have appellations suitable to its name, and tutelary deity. They are accordingly called Kam Pith, Rotno Pith, Mom Pith, and Yoni Pith, alluding to desire, beauty, and some circumstances not unconnected with these qualities, which our customs do not admit to be mentioned with the plainness that is allowed in the sacred languages of the east. In fact this country by the natives is considered as the principal seat of amorous delight, and great indulgence is considered as allowable. I have not learned the boundaries of these divisions; but am told, that Rotnopith is the country now called Villar.

Norok did not long merit the favour of Krishna. Being a great oppressor, and a worshipper of the rival god Sib, he was put to death, and was succeeded by his son Bhogodotto. At the time of the wars, which are said to have placed Yudhishtir on the throne of India, this prince engaged in the great contest on the losing side, and followed the fortunes of Duryodhan. There can be little doubt, that this is the same person with the Bhugrut of Mr. Gladwin's translation of the Ayeen Akbery, "who came to the assistance of Jirjoodhan, and gallantly fell in the war of the Mahabharut." By Abul Fazil this prince is said to have been of the Khyetri Khyotriyo caste, and this is supported by the opinion of the Brahmans; but here a considerable difficulty occurs; for it is generally allowed, that Bhogodotto was the son of Norok, who was not a Hindu. We shall however soon see, that in Kamrup many other personages have been adopted into the princely race, whose claims to a Hindu descent are at best exceedingly doubtful.

In the great war, Bhogodotto fell by the hands of Orjun, brother of Yudhishtir, but according to the Ayeen Akbery 23 princes of the same family, continued to govern after his death. The authority of this work is however diminished by its supposing that these princes governed the whole of Bengal, which seems entirely without foundation. It is however very likely, and is said indeed to be mentioned in the Purans, that for some time, the descendants of Bhogodotto retained the government of Kamrup. I cannot indeed adopt the chronology, which places Yudhishtir about 3200 years before the birth of Christ; on the contrary, I am persuaded, that this prince lived considerably after the time of Alexander; for in every part of India there remain traces of the family of Yudhishtir, or of the princes who were his contemporaries, and of many dynasties, that have governed since his time; but all these later dynasties so far as I have learned, may be ascertained to be of a comparatively late period; and making every possible allowance for the reigns of the families of Yudhishtir and of the dynasties that have succeeded, we shall not be able to place the former much beyond the time of Augustus. I am happy to acknowledge, that I have derived this manner of reasoning on the subject from a conversation with my worthy friend Major Mackenzie of Madras, who has formed more accurate notions on Indian history than any person whose opinions I know, notions founded on a careful investigation of the remains of antiquity, and not on the fictions of Indian poets, who in the extravagance of invention exceed even the fertile genius of Greece.

In the part of the Yugini Tontro, which I have procured, and which is considered as the highest authority concerning everything relating to Kamrup, the

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Pandit of the mission says that there is no mention of Bhogodotto, but that the god Sib prophecies that after the infidel Norok, and at the commencement of the era of Laka, that is about the end of the first century of our era, there would be Sudro-kings of Kamrup. The first Raja mentioned is Devyeswor, in whose time the worship of Kameswori or Kamakhya, the knowledge of which had hitherto been confined to the learned, would be published even to the vulgar, and this would happen at the very beginning of the era of Saka, or in the year of our era 76. This Raja is said to have been of the tribe called in the Sangskrita language Dhivor, which is usually applied to the Kaibortos of Bengal; but may be doubted whether the prince belonged to that tribe, which is not one of Kamrup. The worship of the Langa according to the prophecy would begin in the 19th year of Saka. Some indefinite time after that period a Brahman born of the Korotoya river, and named Nagosongkor, would be king, and extend the doctrine. After him, but at what interval is not mentioned, would be a Raja named Jolpeswor, who would still further encourage that worship, and who would build the celebrated temple of Jolpis. Very considerable ruins are at no great distance from that place, as will be hereafter described; but they are ascribed to a Prithu Raja, who may however have been a person of the same family.

This Prithu Raja, from the size of his capital, and the numerous works raised in the vicinity by various dependents and connections of the court, must have governed a large extent of country, and for a considerable period of time. Although he is in some measure an object of worship among the neighbouring Hindus, they have few traditions concerning the place from whence he came, nor at what period he lived; and I heard it only mentioned by one old man, that he governed before the time of the dynasty, which will be next mentioned.

As usual he is considered as having been a very holy personage, who was so much afraid of having his purity sullied, that, on the approach of an abominable tribe of impure feeders named Kichok, he threw himself into a tank, and was followed by all his guards, so that the town was given up to plunder and the family ceased to reign. At present the Kichok are a kind of gypsies that are thinly scattered in the northern parts of India, and live by snaring game, telling fortunes, and it is usually supposed by stealing.

It would not appear that during the dynasty of Adisur any part of this district was comprehended in the Hindu kingdom of Bengal. On the contrary about that time or not long after, the western parts of this country as far as the Brohmoputro, seem to have been subject to a family of princes, the first of whom, that has left any traces, was Dhormo Pal. Whether or not from his time we may suppose that he was one of the Pal family which preceded the dynasty of Adisur, who in the wreck of his family may have saved a portion, I shall not venture to determine. From the works that are attributed to Dhormo Pal, he would appear to have been a person of some power; and even the works attributed to relations and dependents of his family possess some degree of magnitude. He is said to have had a brother named Manikchondro, who seems to have died early, and to have left the management of his son and estate to his wife Moynawoti. This lady makes a conspicuous figure in the traditions of the natives, and is said to have killed Dhormo Pal in an engagement near the banks of the Tista; at least the Raja disappeared during the battle of his troops and those of his sister-in-law. Moynawoti's son, Gopichondro, succeeded his uncle, and seems to have left the management

of his affairs to his mother, and for some time to have indulged himself in the luxury of 100 wives, among whom the two most celebrated for beauty and rank were Hudna and Pudua one of whom, if not both, was daughter of a person of considerable rank named Hiorichondro. When Gopichondro had grown up, and probably when he had been satiated with the pleasure which women bestow, he wished to interfere in business. His mother had then art to persuade him to dedicate his life to religion; and having placed him under the tuition of her spiritual guide (Guru) Haripa, a religious mendicant (Yogi) of remarkable sanctity, this prince changed from voluptuousness to superstition, adopted the same manner of life with his instructor, and is supposed to be now wandering in the forests. The people of Kamrup are still frequently entertained by the songs of itinerant bards of the low caste called Yogi, who repeat the poem called Silbergit, which gives an account of Gopichondro, of his pious resignation of power, and of the lamentations of his hundred wives, who by no means approved of his change of life. This song is in the vulgar language, and its repetition occupies four or five Hindu hours for two days.

As the father is praised by the Hindus for his piety, his son Hovochondro, or Bhovochondro, as his name is here more usually pronounced, is given as an example of stupidity, who with his minister Govochondro did nothing like other people, and turned night into day, and day into night. Many examples of their stupidity are related to serve as amusement to the youth of Bengal; but the Raja seems to have lived in considerable splendor, and without fear, while the works of his relation Lora, and of his tributary Binna show, that his dependents had considerable power, and did not require fortresses to enable them to live in security. After the death of Bhovochondro there came a Pala Raja of the same family, who is said to have been destroyed by a dynasty, that I shall have next occasion to mention; although it is more probable that a period of anarchy intervened.

The princes of the dynasty of Dhormo Pal are supposed to have been Khyotrios, yet this seems doubtful. The lady Moynawoti had not a Brahman for a spiritual guide; but this important office was held by a Yogi, that is a Sudro dedicated to a religious life; and there is great reason to believe, that the Yogis, who repeat the songs, are descendants of this kind of priesthood, who were degraded by Songkor Acharyo, and who reject the Brahmins as spiritual guides, although in order to procure a miserable existence they have now betaken themselves to weaving, burning lime, and other low employments. In the south of India they collect and vend drugs, and pretend to practise physic, but are equally obstinate in rejecting the instruction of the sacred order.

With regard to the next dynasty there is greater certainty, although as usual the chronology is attended with many difficulties. According to tradition there was a Brahman, whose name is unknown; but who had a servant that tended his cattle, no one knows where. According to some this servant was an infidel (Osor), most probably from the mountains of Tripura; but concerning this, different persons are not exactly agreed; and some allege, that it was his mother who was of the impure race, and that she bore her son while in the service of the Brahman. Many complaints were lodged against this fellow; and his master one day was desired to view him asleep, while his cattle were permitted to destroy the crops of the neighbours. The Brahman was advancing with a determination to bestow the merited punishment, when he observed the lines on the naked feet of his servant,

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and immediately, by his profound skill in the most noble science of Samudrik Jyotish, knew that the sleeper would become a prince. On this discovery the Brahman paid him all due respect, rendered it unnecessary for him to perform any low office, and showed him still more kindness by disclosing the certainty of his future greatness; for the servant in return promised, that, when he became a prince, the Brahman should be his chief minister (Patro). Accordingly some time afterwards it is not known how he became king, and is said to have destroyed Pala the successor of Hovochondro. This however, as I have before observed, is rather doubtful, and Kamrup in the interval had probably fallen into a state of anarchy favourable for an upstart; and was overrun by various rude tribes, Koch, Meeh, Garo, Kachari, Rahha, Hajong, Tripura, Bhot, and Nepcha, who neither spoke the language of Bengal, nor had adopted the religion of the Brahmans, although numerous fugitives had taken refuge from the violence of Sultan Jalaludin, as mentioned in my account of Dinajpoor, and had diffused some degree of instruction or at least had preserved the little improvement that had been made in former dynasties.

The new Raja seems to have been much guided by his minister the Brahman, assumed a Hindu title, Nilodhowj, and placed himself under the tuition of the sacred order. For this purpose a colony of Brahmans were introduced from Maithilo, and from thence we may perhaps infer the country of the minister. There is no trace of an earlier colony of Brahmans in Kamrup than this from Maithilo, and the great merits of the Prince were rewarded by elevating his tribe called Khyen to the dignity of pure Hindus. It is indeed contended by the Rajbongsis, that Nilodhowj was of their caste, and that the Khyen were only his servants begotten by Rajbongsis on prostitutes of the Khytriyo tribe; but it seems highly improbable that the Raja would procure the dignity of pure birth for the illegitimate offspring of his servants, while his own family remained in the impure tribe of Rajbongsi, the origin of which seems to me of a later date. The Raja having settled his government, built a city called Komatapoor, and he and his successors took the title of Komoteswor, or Lords of Komota, while the little Komoteswari, or lady of Komota, was bestowed on the family deity, a female spirit as usual delighting in blood.

As each Raja of this family claimed his right to govern on the authority of some miracle, it was discovered by Chokrodhowj, the second prince, that Bhogodotto had received from Sib an amulet (Koboj), which rendered him invulnerable, and which he usually wore on his arm. In the hurry of preparation for battle this amulet had been left behind on the day, when Bhogodotto was killed, and lay concealed near Hostinapoor, until the time of Chokrodhowj, when this prince was informed in a dream how the amulet might be found, and that it was to be worshipped as representing Komoteswori, as it is to this day.

During this dynasty the office of chief minister (Patro) seems to have been hereditary, as well as the regal dignity, and the Brahman and his descendants occupied a fortress contiguous to the walls of the city; but the government does not seem to have been very secure, as not only the royal palace and the residence of the minister, but several houses of inferior personages seem to have been fortified, although situated within the immense works by which the city was surrounded.

Chokrodhowj was succeeded by Nilambor, the third and last prince of the family. His dominions are said to have extended over the greater part of Kamrup,

and included part of Motsyo; for the fort at Ghoraghat is said to have been one of his erecting. Numerous public works, especially magnificent roads, are attributed to this prince, who from thence seems to have governed his country with attention; but the circumstances related concerning his overthrow are accompanied with traits of the most savage barbarity.

Whether from a natural suspiciousness of temper, or from an uncommon accuracy of observing such circumstances, the Raja on entering his womens' apartments, one day, observed traces, which convinced him, that a man had been there. He was immediately inflamed with jealousy, and having sent people to watch, a young Brahman, son of Sochi Patro the prime minister, was soon caught attempting to enter the royal apartments, and to dishonour his master. He was taken before the king, put privately to death, and part of his body was prepared for food. His father, having been invited to a grand entertainment given by the king, eat of his son's body; for in Kamrup the Brahmans are allowed great liberties in their diet. After he had satiated himself with this monstrous food, the king showed him his son's head, and informed him of the crime, and of what he had been eating. The minister is said to have acted with a presence of mind well suited for such an occasion. He said that his son had no doubt deserved any punishment; but, as the king had made him eat such a horrid repast, that he could no longer continue in his service, but would retire from the world, and dedicate himself to the duties of a religious mendicant. By this stratagem he was allowed to retire, and having assumed the habit of a Sonnyasi, immediately left Kamrup. His first object now was to procure revenge, and he proceeded without delay to Gaur, where he laid before the Moslem king information, that was followed by an attack on Nilambor. For sometime, however, the invasion, did not seem likely to terminate in success, for after a siege of 12 years the Moslem had made no impression on the works of Komatapoor. Although the length of the siege is probably exceedingly exaggerated by tradition, its issue probably continued long doubtful; for the invading army has evidently fortified its camp with much care. The place is said to have been taken at length by stratagem, or rather by the most abominable treachery. The Muhammedan commander informed the king by message, that having lost all hopes of taking the place, he was desirous of making peace, and of leaving the country on the most friendly terms. This having been accepted, it was proposed, that the ladies of the Moslem chiefs should pay their respects to the queen. This also was received as a mark of polite attention and a number of covered litters were admitted into the womens' apartments within the citadel. In place of Moslem ladies these litters contained arms, and the bearers were soldiers, who, immediately on gaining admission, seized their weapons, and secured the person of the Raja, who was put into an iron cage, in order to afford amusement for the Sultan and populace of Gaur. On the way he contrived to escape, and has ever since remained concealed.

The Muhammedans of Ghoraghat attribute the destruction of Nilambor to their favourite saint Ismael Gaji, of whom I have given an account in the report concerning Dinajpoor. By the Moslems of this district he is considered as the chief saints, and several places of worship are erected to his memory, or over precious relics that belonged to his person. But this reverence has probably induced them to magnify the conquests of Ismael, who governed Ghoraghat in the reign of Nusrut Shah; a prince whose reign commenced about the year of our era, 1523, which seems to be somewhat too late for the destruction of Komatapoor.

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In the manuscript account of Bengal, which I procured at Maldeh, it is said, that the Sultan Hoseyn, immediate predecessor of Nusrut, conquered Kamrup, and killed its king Harup Narayon, son of Malkongyar, son of Sada Lukhymon, and I have no doubt, that these are the same persons with the three princes of Komotapoor; for the Hindu Rajas have so many titles that one person may choose to call them by a name totally different from that which another person may choose to employ; and the time of the events will not admit of our supposing, that a dynasty intervened between that destroyed by Hoseyn, and the one which now governs the small portion of Kamrup, that retains some degree of independence.

In the short account of Asam, published in the second volume of the Asiatick Researches, which seems to me more accurate than the commentator is willing to admit, it is stated, that "Huseyn Shah, a king of Bengal, undertook an expedition against Asam, in which he had at first considerable success. The Raja retired to the mountains, and the son of the king was left with a large army to keep possession of the country. In the rainy season the Raja descended into the plains, and destroyed the whole invading army, who were all either killed or made prisoners (A.R. vol. 2, p. 180)." It was probably this rash expedition, which frustrated the conquest of Komotapoor, and rendered it necessary for the Moslems to retire, after a possession of one or two years. Indeed the tradition of the Hindus state, that they made no stay at Komotapoor, but retreated immediately with what booty they could procure. This, however, seems improbable, and I shall have occasion to show, that within the walls of Komota, there are probable traces of the Moslems having begun very considerable works, which have been broken off unfinished. It is therefore probable, that Nilambor was destroyed by Hoseyn Shah in person, and he began to reign about 40 years before the usurpation of Sheer Shah, or about the year 1496 of our era. The conquests therefore of Ismael Gaji must be confined to the vicinity of Ghoraghat, and perhaps he did no more than retain these small portions of the conquests made by the Sultan Huseyn, where he founded the city named after Nusrut, the successor of that prince.

The overthrow of Nilambor is looked upon by the natives as a most unfortunate event. In the Yogini Tontro, it is told, that in the time of Norok, a most holy person Vosishtho Muni went to the temple of Kamakhya, and was refused admittance by the infidel guardians. As such persons, conscious of their worth, are sometimes apt to be a great deal too irascible, Vosishtho prayed that the temple might be deprived of all dignity, which accordingly would have immediately happened, had not the goddess of love (Kamakhya) made a complaint to Sib, who although he could not entirely prevent the effects of the holy man's imprecation (Sangpon); yet postponed the completion until the destruction of Komotapar; and he ordered that this degradation should continue only until the restoration of the Komoteswor, who, as I have said, is supposed to be still alive, and his return is anxiously and eagerly expected by the people of Kamrup, as some of the events, which are prophesied to precede the restoration, have already come to pass. On that happy occasion the goddess of delight will be restored to full glory, and the four nations of usurpers, who now share Kamrup, will be extirpated by mutual slaughter. These nations are the Plov or Bhoteas, the Saumar or Asamese, the Kuvach or Koch, who govern Vihar, and the Yovon or barbarians of the west, who, according to the excellent authority of the Yogini Tontro, are descendants of Haihoyo and Taojongghol, two Khyotriyos, who, on account of cowardice, were de-

graded and prohibited from eating pure food, and from following the doctrine of the Beds.

Two brothers, named Chondon and Modon, after the overthrow of Nilambor, established a short government of eight years, at a place called Morolavas, which now is under the government of Dev' Raja, and is about 30 miles north from Komotapoor. Their power was not only transient, but seems to have extended to no great distance, and the parts of Kamrup, that were not retained by the Moslems, seem to have fallen again into anarchy under the chiefs of the rude tribes which I formerly mentioned. Among these, by far the most powerful were the Koch, who had a number of chiefs, at first independent, but who gradually united under the authority of one of themselves named Hajo. He seems to have been a person of great vigour, and reduced under his government the whole of this district, except Ghoraghat, together with most of that portion of Asma, which is included in the government of Ghothi or Kamrup. He had no children, except two daughters, Hira and Jira.

Hira, before the rise of her family, had been married to a certain Herya, who is said to have been of the impure tribe called Mech. Whether Jira was married or not is not known; but she had a son named Sis, while her sister bore a son named Visu. The former is said to be ancestor of several branches of the family that are now subject to the Company; but Visu succeeded to the whole power of his grandfather. As he was not contented with the instruction of the Kolitas, who seem to have been the original priesthood of his tribe, nor with the learning of the Brahmans of Maithilo, who had been formerly introduced, he procured some men of piety (Baidiks) from Srihotto, and gave them the title of Kamrupi Brahmans, and these form the second colony of the sacred order that has settled in this country.

To this era may probably be referred the composition, or, as the Hindus would say, the publication of many, or most of the books called Tontros, which are supposed to have been communicated by the God Sib to his wife Parloti about 5000 years ago. One of the most celebrated of these compositions, the Yogini Tontro, I am indeed informed, mentions the amours of Hira and the government of her son; nor is there any doubt that Kamrup is usually considered as the grand source of this system of magic, and the period between the time of Visu and of his great grandson Porikhyit seems to have been the only period when the learning of the Brahmans flourished in that country. The doctrines contained in these works admit of many indulgences necessary for new converts, and to enable the Brahmans to share in the pleasures of a most sensual people; and they inculcate chiefly the worship of the female spirits, that are appeased with blood, which was the original worship of the country, and which has now become very generally diffused among the Brahmans of Bengal, with whom these Tontros are in the highest request.

It was now discovered that the Raja was not a son of the poor barbarian Herya; but that his mother, although born a Koch, was not only of a celestial origin, but had been the peculiar favourite of the God Sib, who had passed much time in amorous dalliance with the damsel, and was the actual father of the prince, who took the name of Viswo Singho, and bestowed on the son of his aunt Jira that of Sib Singho, and this prince also claimed for his mother the honour of the most intimate favour of the God, whose name he bore.

Although the Yogini Tontro calls the father of Hira a barbarian (Melechcho); yet it has been discovered, that the Koch were not in fact an impure tribe, as had

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been in general supposed; but were descended from some Khyotriyos, who had fled into Kamrup and the adjacent country of Chin, in order to escape from the violence of Pōrosuram, when that deity pursued the kings of the earth, and gave their territories to the Brahmans. In this exile the descendants of the Khyotriyos had departed from many parts of the Hindu law, and on this account were considered impure. This seems to be exactly the same story which Sir William Jones quotes (A.R. 2, page 368) from the institutes of Menu, and on the authority of which he deduces the origin of the Chinese from the Hindus. The features both of Chinese and Koch seem to me insuperable objections against that theory; and I have no doubt, that both the passage of Menu and the fable of the Koch are equally founded on national vanity, which however unbecoming in a lawyer or philosopher like Menu, is excusable enough in the Koch, who among the people with whom it is their fortune to live, are naturally desirous of procuring some means of being raised from the dregs of impurity. On this pretended descent the Koch, or at least all of them that have adopted the Hindu religion, and have relinquished their impure practices, assume the title of Rajbongsis, or descendants of princes, and the other rude tribes of Kamrup and Chin, such as Mech and Hajong, who have followed their example in religion, have assumed the same title. All the descendants of Hira, still farther elated by their supposed divine origin, assume the title of Dev or lord, and all the reigning princes of the family claim the title of Narayon, which among the Hindus is one of the names of the supreme deity.

Viswo Singho was so weak as to divide his dominions between two sons, Noro Narayon and Suklodhwoj. The former obtained the country west from the Chhonnokosh, the latter obtained the country east from that river, together with both sides of the Brohmoputro. I shall now proceed to give an account of this branch of the family, which was the most considerable.

Suklodhwoj seems to have governed without any remarkable event, and left his dominions to his son Roghu Dev Narayon. He had two sons Porikhyit Narayon and another, who as an appanage, obtained Dorong, which his descendants still retain under the kings of Asam. Porikhyit, however, prudently retained the sovereignty of the whole, and lived at Gialjhar on the west side of the Godadhori, where the only remains to be seen, although the place is also called Atharo Kotha, or 18 castles, clearly evince the small improvement which his people had made in the arts; but his court seems to have flourished in learning, and 700 Brahmans are said to have resided at his capital.

When Abul Fazil composed the Ayeen Akbery, the subdivision of the kingdom of Viswo Singho was not known at Delhi, although in all probability it had recently taken place. From prudential motives it had perhaps been carefully concealed, and the two branches of the family lived in an amity, that was absolutely necessary for their safety. Abul Fazil says that "North from Bengal is the province of Coach (Koch), the chief of which commands 1000 horse and 100,000 foot (the usual oriental exaggeration). Kamrup, which is also called Kamtah (Komota the old capital), makes a part of his dominion." Soon after this, however, it is said, that the Muhammedan governor of Dhaka discovered the real state of affairs, and became very urgent with Porikhyit for tribute. The Raja being afraid, did not absolutely refuse to comply; but, in order to procure favourable terms, was advised to undertake a journey to Agra, where he was kindly received, and procured an order from the king directing the governor to take whatever tribute the Raja chose to offer. On returning

to Dhaka the Raja, who was totally ignorant of human affairs, and of the immensity of the sum, offered 20,000,000 of rupees, and returned to his capital highly satisfied with his conduct. When his minister (Petro) explained to him the nature of the promise which he had made, the poor Raja was thrown into consternation, and again set out for Agra, taking his minister with him, in order to avoid such mistakes. Unfortunately he died by the way, and the Moslems, in the mean time, took possession of the country, in order to recover the money that had been promised. The minister proceeded to court, where after some trouble he was appointed Kanungoe or register of the country, which was divided into four Sirkats. Uttorkul or Dhenkiri north of the Brohmoputro, Dokhyinkul south of the same, Banggalbhumi west of the Brohmoputro, and Kamrup proper, called so as containing Gohati, the most ancient capital of the country. The brother of Porikhyit was confirmed in his government of Dorong, and Chondro Narayon and the son of the unfortunate Raja, received very large estates, which his descendants still retain as subjects. These I shall afterwards have occasion to mention. Large estates were also given to the new Kanungoe, from whose family papers these accounts are taken.

The Moslem army took possession of the country about the year 1009 of the Bengal era, that is A. D. 1603, or two years before the death of Akber. A Mogul general (Fouzdari) resided at Ranggamati, and the country is said for many years to have undergone considerable improvements, especially under the government of a certain noble Hindu named Mano Singho. The usual desire of encroachment, however, induced the Moslems, in the reign of Aurengzebe, to invade Asam, the limits of which were then very narrow; but the people were fierce of their independence, were invigorated by a nourishing diet, and strong drink, and their princes still retained their energy of mind, had not sunk under the enervating and unceasing ceremonies of the Hindu doctrines. The Mogul army under Meer Jumla was completely destroyed, and they were compelled to cede to the Asamese the whole of Sirkar Kamrup, and a portion of Uttorkul and Dokhyinkul, which have ever since been placed under the management of great Asamese officers, and form the government of Kamrup, which is about a third part of the whole kingdom. After a residence of 73 years, the Muhammedans withdrew the (Fouzdari) government of Ranggamati, and placed the station of the governor of the frontier at Ghoraghat, as I have mentioned in my account of Dinapoor. Still however an officer dignified with the title of Nawab resided at Ranggamati, with some troops; but it seemed to have been the wish of the Mogul government to encourage the growth of forests and reeds, which might serve as a check to the incursions of the Asamese; and nothing was required of the chiefs descended from Porikhyit, nor from the Zemindars of hilly countries, but a tribute in a great measure nominal.

The conversion of the Kings of Asam to the doctrines of the Brahmans of Bengal, which happened soon after the overthrow of Meer Jumla, seems to have put a total stop to their enterprise, and the petty chiefs, who remained nominally under the authority of the Nawab of Ranggamati, would have been entirely uninterrupted in cutting each other's throats, and in reducing the country to a desert, had not they been assisted by the Bhoetas, who brought several of them under their authority, and continued advancing, when the Company's gigantic power put a stop to all petty attacks of that nature. A tolerably settled frontier has been obtained, there are some appearances of a regular government and cultivation is again beginning to revive, although it is still much retarded by the constant

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squabbles of the chiefs, and the liberty which they take of dictating to all who reside on their property.

I shall now finish this historical view with an account of the western division of Viswo Singho's dominions, which fell to the share of his son Noro Narayon. This division comprehended the whole northern parts from the Chhonnokosh to the Mahanonda, and from Serkar Ghoraghat to the mountains of Bhotan, being a very fertile tract of country about 90 miles from north-west to south-east, and 60 miles from north-east to south-west. The north-west extremity of this territory was settled on the descendants of Sib Singho the son of Jira, the grand aunt of Noro Narayon, from among whom the Rajas were bound to choose their chief ministers (Raykot). This portion, as producing an income of 32,000 Rs. a year, was called Bottrishazari (Bootishazary R.) but the general name given to the principality was Vihar, as having been scene of the voluptuous intercourse between Sib, and the daughter of Hajo. In order to distinguish this Vihar from the large territory of the same name near Patna, it has been usual to call it Koch Vihar (Kos Bechar R.); but all remembrance of the Koch is disagreeable to its princes, and at their capital all additional appellations given to Vihar are considered as exceedingly uncourteously.

The following is the succession of these princes; but among these, after the fifth generation are some sons by adoption, and some collateral, and it is alleged, illegitimate successions, of which I have been able to procure no satisfactory account. 1. Noro N. 2. Lokhymi N. 3. Vir N. 4. Pran N. 5. Mod' N. 6. Vosudev' N. 7. Mohindro N. 8. Dno N. 9. Rupo N. 10. Upendro N. 11. Devendro N. 12. Dhairjyendro N. 13. Rajendro N. 14. Dhorendro N. 15. Vijendro N. 16. Khogendro N. 17. Horendro N. the reigning prince, by the natives he is considered as a very pious person; for he pays no attention to business, but passes the whole of his time in retirement, and as is supposed, much of it in prayer, and as he lays out much money in supporting men dedicated to a religious life. Of course his temporal affairs are not flourishing; and his people would probably suffer less, were he more attentive to their government, for he is said to be desirous of rendering justice. At present the whole management of the country is left to strangers, who are alleged to be mere sharks; but all the chiefs of the Rajbongsis are like their prince; no one is said to be either able or willing to attend to business. It is supposed by the natives, that the gods have bestowed an extraordinary reward on the virtue of the Raja. He has fifty wives. The accounts which I have heard of this chief from Europeans, who were well acquainted with him, differ a good deal; and represent him as a poor creature exhausted by drunkenness and debauchery.*

The Vihar Rajas reckon by the era of their ancestor Viswo, and suppose that he began to govern in the Bengal year 916 or A.D. 1509. This is scarcely reconcilable with the supposition that Hoseyn Shah destroyed Komatapoor after a long siege, as he began to govern about 1496; especially if we suppose, that a long anarchy took place between the governments of Nilambor and Viswo. I can only suppose that Hajo immediately after the retreat of the Moslems began to acquire great power, and that the era begins with the independence of the country, in place of being reckoned from the reign of Viswo, the impure Hajo being considered by the descendants of the gods, as an unworthy connection. It must farther be observed, that from an inscription on a temple erected by Pran Narayon, the great great

grandson of Viswo, that prince was alive in the year of Sakadityo 1587 or A.D. 1665, so that five reigns, according to the era of Viswo, occupied 156 years; while the 12 following reigns have only occupied 144 years. It must be also observed, that the era of Viswo does not appear to have been in use in the year 1665, and is a recent invention, which can have no great authority; yet I do not think it much antedated, as the government of Porikhyit, a great grandson of Viswo, was destroyed in the year 1603.

After the division of their territory into two principalities the Koch sensible of their weakness, are said to have erected a line of fortifications along their southern frontier. This still remains, and is attributed to Mod, the fifth prince of Vihar; but it proved an effectual protection to his part of the country for only a very short period. About the beginning of the 18th century, the Muhammedans under the command of a certain Eladut Khan were able to wrest from his descendants, the districts which in the Bengal atlas are called Boodah and Ronggopoor; and, as if they had conquered the whole, erected them into a new Serkar called Koch Vihar or Kochar. Indeed it comprehends at least a third of the whole principality, and that by far the most improved, although this is probably owing in a great measure to its change of masters.

The confusion that ensued in the Mogul government, secured the Vihar family from farther encroachments on that side, but their reduced state now exposed them to the depredations of the Dev' Raja, who deprived them of one half of their remaining territories. The attack indeed was on the point of proving entirely ruinous, when Dorpo Dev', the Raykot or hereditary minister, having laid aside all regard to his duty, rebelled against his sovereign and kin-man. He entered into an alliance with the Dev' Raja, and ceded to him a considerable portion of the Bottrishazari, on condition of being supported in overthrowing the Raja, to whose titles in fact, there were some objections. Having procured troops from Bhotan he invaded Vihar. The Raja in despair applied for assistance to the Company, and to secure protection, engaged to pay one-half of his revenue. Accordingly in 1772, Captain Jones with a battalion of sepoy's routed Dorpo Dev', who took refuge in Bhotan Captain Jones followed, and in 1773 took the fortress of Dalim Koth', on which the Dev' Raja and Dorpo sued for peace. This was granted, and the parts of Bottrishazari, that had not been ceded to Bhotan, were restored to Dorpo; but he was placed exactly on the same footing as an ordinary Zemindar, and a revenue was fixed on his lands; while he lost all authority in the remnant of Vihar, which does not now exceed one third of its original dimensions, and pays as a tribute, what is supposed to be one-half of its net revenue. In settling the frontier, great favour and lenity seems to have been shown to the Bhotas, probably with a view to gaining their friendship in an expectation of commercial advantages, that would appear to be chimerical. Some favour, however, has also been shown to the Raja. When the Moslems settled their new conquest of Serkar Koch Vihar, they gave the Zemindaries or management of the soil to various officers and servants of the Raja, by whose treachery they probably had been assisted. Among these, three considerable estates were in the possession of a branch of the family, from among the members of which, the Nazirdev' or commander of the troops, was always appointed; and these estates had been granted as a part of the means by which the expense of the army was to be defrayed. The descendants of the Nazirdev' had enjoyed these estates from the time of the Moslem conquest; but on the British army being bound by treaty to defend the country, the Raja represented that he had

*The details given in this and other instances exhibit a melancholy picture of vicious propensities.—[ED.]

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no occasion to support a military establishment, and that therefore the general had no pretence for keeping lands to enable him to maintain soldiers. It has been thought just, to allow the Raja to enjoy these estates as a Zemindar, and to receive whatever profits may be derived from their management. The possession which the Nazirdev' had obtained from the Moslems, seems to render the case doubtful; but the claim of the Raja is certainly possessed of great weight.*

III

TOPOGRAPHY AND ANTIQUITIES OF THE DIVISIONS OF RONGGOPUR**

Fakirganj—This jurisdiction, which is situated west from Patgang, is entirely separated from it by a narrow strip of Vihar. One detached portion is situated in the centre of Boda, while another is removed to a great distance on the frontier between Vihar and Bhotan. This might be conveniently exchanged with a similar petty jurisdiction, which the Dev' Raja possesses in the centre of Sonnyasikata. Independent of these detached portions, this jurisdiction is a narrow space about 30 miles in length, while its whole square contents may be about 184 miles. Although this district never was subject to the Muhammedans, they are said to compose more than a half of the population. The spiritual guidance of the worshippers of Vishnu has been disputed between Kungjokisor of Ronggopur, and Onahari of Puraniva. The magistrate has decided in favour of the former.

The northern parts of this division are entirely covered by a forest. The soil is everywhere so light as to require no iron in the plough. There is no large marsh nor lake. This is the only division west from the Chonnokosh, in which any of the hoe cultivation is to be found. Although the house of the Raykots already mentioned, who possess an extent of about 380 square miles, of which perhaps 222 are in actual cultivation, is in this district, yet it contains no dwelling house of brick, and only one smaller domestic place of worship of that material. Perhaps 100 houses have mat walls, and not above 75 of these have wooden posts, although they are situated close to a forest, 200 houses, however, very near the woods have wooden posts with walls, composed of reeds, and are reckoned inferior to such as have mat walls, supported by a frame of bamboo. The whole are thatched with grass (Ulu). There is no town.

There is no place of worship in the district of the least consequence, nothing but miserable huts, sticks, stones, bunches of hair, heaps of earth, or the like. Formerly, indeed, before the rebellion of the Raykots, they possessed by far the most celebrated place of worship in all these northern parts. It is a temple of Sib' at Jolpis, and was built by Pran and Mod Narayon, the 4th and 5th Rajas of Vihar. They procured a Muhammedan artist from Delhi, and have acted judiciously, for the design possesses some taste, as will be seen from the accompanying drawing (No 2.). I did not visit the place, as it was ceded to Bhotan, in order to procure their assistance to dethrone the Vihar Raja; but all my Hindus went to offer their devotions. The building is rather ruinous; but the Dev' Raja has not withdrawn any of the endowments. The Brahmans, however, will not probably lay out a single cowrie on repairs; but will wait until there comes another Raja,

that may be willing to undertake the work. The image, as usual, is supposed to be of great antiquity, and according to the Yogini Tantra arose of itself. The first temple was built by a certain Jolpeswor Raja, of whom I have already made mention. I find nothing to determine the age in which he lived; but the priest of the temple informed the Pandit that it had been rebuilt twice between the time of Jolpeswor and Pran Narayon, who we know lived about 150 years ago, and his building is far advanced in decay. The chief deity of the villagers is Buri Thakuram, the old nymph who governs the Tista. The Raykots had erected many small forts or redoubts in this district, the ruins of which may be now traced, but none of them are at all remarkable. They all have bastions at their angles, which shows an advance in the military art.

Sonnyasikata—The jurisdiction, which comprehends the other division of Raykot's estate, is somewhat of a triangular form, extending towards the south east in a long acute angle. A large portion of it in that direction is much nearer the police office of Fakirganj than the residence of its own Darogah, which is at Kasingunj in the south-west corner of his jurisdiction, while he is close to a projecting part of Boda, which is a vast territory, too heavy a charge for one person to superintend. In the centre of Sonnyasikata, is a territory belonging to the Dev' Raja, as I have before mentioned.

The soil is so light, that no iron is used in the plough. In some places it has immediately under the surface a kind of black earth, called buffalo sand (Molushabala); and, wherever that is found, the land is very sterile. On digging seven or eight cubits, sand containing water-worn pebbles is usually found. There are no marshes of any considerable extent. The northern extremity is overgrown with woods and reeds. There is no building of brick, and scarcely any of the huts have mat walls. About 100 huts have wooden posts. The poor use reeds (Barna and Keso) for thatch, and the rich employ grass (Ulu). There is no town.

The Moslems have no place of worship of the smallest consideration. Among the Hindus the only one remarkable is that from whence the vicinity derives its name. The first of the Raykots, the young Sib' (Sibkumar), was building a fort and the workmen in digging came upon a person dedicated to God (Sonnyasi), who was passing his time under ground in devout retirement. This person was wounded by the pioneers before they were aware; but he made no complaint, and only requested to be covered again, which was accordingly done, and a convent (Akra) for persons of his order was built on the spot. It is under the direction of a superior, whose title is Mohonto. The person, who some years ago filled this sacred office, was supposed to be of a temperament too warm for his profession of chastity; and being incapable of marriage, had a female companion, by whom a son was born. This son succeeded to the office of his mother's friend, and was supposed to have been too intimate with a young woman, who contrary to all order lived in the convent. He was lately murdered by a brother Sonnavsi, who formerly had lived with him; but had retired to the dominions of Gorkha, it is supposed from disgust at the conduct of his superior; and the crime, which he committed, was perhaps owing to an overboiling of zeal. Immediately after its commission he retired to Nepal, where he is perfectly safe.

About 200 people annually celebrate the feast of Varuni, by bathing in Korotoya, where it passes through this jurisdiction. The most common god of the villages is Sonnyasi, the pious person who passed his time in meditation under ground, and who has now received the title of deity (Thakur).

*See the District Handbook for Cooch Behar for the remainder—A. M.

**For passages which precede and follow the extracts in this section, see the District Handbook for Cooch Behar—A. M.

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In this division also, the Raykots have constructed many small mud forts, which are now in ruins. The best informed people are totally ignorant of any history previous to the accession of Viswo Singho, nor does any one of them know the Sangskrita appellation for this part of the country. Part of it being on the west side of the Korotoya, cannot be in Kamrup. Partly in this jurisdiction, and partly in that of Boda, and at no great distance from Jolpis are the ruins of the city of Prithu Raja, which I shall now describe. This city has been situated at some distance east from the Korotoya, and a small river, the Talma, ran through it from north to south. The accompanying sketch (No. 9), made in passing through a part of it, first from east to west, and then from north to south will enable the reader to understand my description.

The city consists of four concentric enclosures. The innermost is said to have been the abode of the Raja, and appearances justify the supposition. It is a parallelogram of about 690 yards from north to south, by half as much from east to west; but at the north end a small portion is cut from its east side, in order to secure the place, by an earthen rampart, from any attack that might be made from a large tank that is adjacent. The defence of the other parts of the royal residence has been a brick wall. Near the middle of the area is a small tank, with a heap of bricks at each end. In the south-east corner is another tank, and one heap. In the south-west corner are two heaps containing bricks. All these heaps are small, and have probably been private places of worship; and all the other buildings were probably thatched. There is not the smallest trace of either taste, or magnificence; while the defences seem to indicate, that the government of the Raja was insecure.

The tank adjacent to the citadel or palace is a considerable work; and, from the great height and wideness of the banks thrown out, must be deep. It extends about 800 yards from north to south, and 700 from east to west. In the north and south ends it has had two ghats or descents, and in the east and west sides it has three, all paved with brick. The water is still clear; and owing probably to the bottom being sand, but attributed to the holiness of the place, few weeds grow in it. The part of the bank that adjoins the palace is overgrown with trees and bushes, and is supposed to be still the abode (Sthan) of the spirit of Prithu; for on the approach of the impure Kichok, it was here that he precipitated himself into the water. A flag is hoisted to denote that the ground is holy; and, on approaching, my guides bowed to the ground, and called upon Moharaja Prithu by name.

The inner city, which surrounds the palace and great tank, is about 1930 yards from east to west, and 345 from north to south. Where I passed the north-east and west faces, they consisted of a brick rampart, and a narrow ditch without any flanking defences, and extremely ruinous; still, however, in some parts, the bricks of the facing retain their position. Where I crossed the southern face it consisted of a very wide ditch and strong rampart of earth. The citadel is not in the centre of this inner city, but it is placed nearest to the north and west sides.

The middle city extends about 3530 yards from east to west, and 6350 from north to south, and is surrounded by a ditch and rampart of earth; but its north face, where the Talma enters its ditch, and flows along it so far as I traced, is strengthened by an additional rampart. Its western area is wider than its eastern, and its southern area is not so wide as that on the north. Near its southern end is a tank called

Vaghpukhori, where the Raja kept some tigers. In the northern area are shown two small heaps of bricks, which are called the house of the Raja's minister, and from their size could only have served as the private places of worship of such a personage. In both the inner and middle cities there have been subdivisions, separated by ramparts and ditches, both running parallel to the chief defences of the place, and cutting the former at right angles, and which probably divided the city into many quarters.

The outer city is surrounded by a low rampart and ditch, and is supposed to have been occupied by the lowest of the populace, on which account it is called Harirgor. It extends 300 yards from the western rampart, and 570 yards from the southern rampart of the middle city. Its extent on the east escaped my notice, as I was not in expectation of finding any ruin, when I came upon it, and reached the rampart of the middle city before I was aware of the circumstance and night approached so fast as not to admit of my returning back. Neither did I ascertain the extent of this outer city towards the north. I could not see it from the rampart of the middle city, and was told, that it was at such a distance as to render a day's halt necessary, if I intended to view it; and a day's halt was impracticable, as my tents had that morning gone to a distance. My guides said, that the total length of the outer fort from north to south is six miles, which seems probable.

There is no reason to think, that in the whole city there was any public building either religious or civil, that deserved notice; or any work of considerable magnitude, except the defences and the tank. This shows, either that the people were in very rude state of society, or that the urgency of the state required its whole means to be exhausted on its defence. The whole seem to have been early constructed, before the art of war had made any considerable progress, as there is nothing like towers, bastions, or any part that can defend another; but that does not indicate a great antiquity, as Komotanpoor, destroyed in the end of the fifteenth or beginning of the sixteenth century, is in a similar state. For one appearance, which I observed in all the sides of the outer city, I cannot account. There are several trenches of inconsiderable depth, and perhaps 20 feet wide, which seem to extend round the whole parallel to the ditch of the middle city, and distant from each other about 40 or 50 feet. The earth that has been taken from the trenches, has been thrown on these intermediate spaces, which although evidently raised are level. They could therefore scarcely have been intended for defences; nor is it probable that regular streets would have been formed in the meanest part of the city, while no traces of such remain in the parts that were inhabited by persons of rank.

Besides the city, several other works in this jurisdiction are attributed to the family of Prithu Raja, or to his servants. At Dhubni, a little north and west from the city, is a tank, where the royal washerman is said to have dwelt, and a square mound, containing some bricks, is pointed out as the foundation of his house. Many other small tanks are attributed to these personages; and among others one, some miles east from the city, called Jharpukhori, near which have been some small buildings of brick. Several roads also are attributed to Prithu Raja.

Boda—This division has been made of an unusual size, as it contains almost as much as the two last mentioned jurisdictions. Kungjok'sor of Ronggopoor has a small part that is not on the estate of the Vihar Raja. The Rajbongsis of Boda are under the guidance of Kripanondo, who usually resides at Dinajpoor,

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although his authority is confined to Boda. The Kolitas, or ancient priesthood of the Koch, now receive instruction from a Brahman named Madhovanondo, a person of the colony introduced by Viswo Raja of Kamrup. The large proportion of this division that is destroyed by water, is chiefly owing the great channel of the old Tista, which passes through it for 24 miles. The soil is so light, as to require no iron in the plough. There is one small wood of Sal on the Korotoya; but it is stunted, and I believe is in the territory subject to Vihar.

There are no buildings of brick, except three small temples, which are partly constructed of that material. Fifteen-sixteenths of the houses are thatched with fine grass (Ulu), and one-sixteenth with reeds (Birna and Kesc); one-eighth of the houses have mat walls, and of these about 100 are entirely, and about 300 partly supported by wooden posts; seven-eighths of the huts have walls of reeds, of which five-eighths are plastered within with clay. No Zemindar resides.

Kumarirkoth, called also Govindogunj, is a small town, containing several houses that are reckoned good by the natives, and is the residence of the native officers of police and law, and of the officers employed by the Raja to manage his affairs. It may contain 200 houses. Pochagor, the great mart for sack cloth, may contain 150. Saldangga contains perhaps 200. Devigunj is a thriving place, and contained 250 houses, most of which had lately been burnt when I saw it; but this is an accident so common, that it seems scarcely to produce even a temporary regret.

The chief place of Moslem worship is the thatched monument of a reputed saint. The common village deities are Kali, Sonnyasi, the pious person who lives under ground, the old river nymph Tista, her son (Mokor) the crocodile, Rajadhol, and Sonai Monai, of which two last I procured no explanation. The two chief places of worship among the Hindus are a thatched temple of Sib' at Bhojopoor, and a small brick temple of Bodeswori, a female destructive spirit, from whom the country derives its name. It has a considerable endowment from the Vihar family, who have twice rebuilt it.

There remain no traces of the original building erected by a Buddh Raja for his family deity, but the temple is situated in the centre of a fort, where the Raja is said to have lived. It is a square of about two miles round, and is surrounded by a wide ditch and high earthen rampart, without towers or any of the other improvements in military architecture. There remains no tradition concerning the time when this Raja lived. I saw no heaps of bricks, nor other traces of buildings.

Eight coss north from Kumarirkoth is a tank called Hoseyn Dighi, which is said to have been dug by Hoseyn king of Bengal, who overthrew the king of Kamrup. He was born in the neighbouring village Dev' Nogar. It must be observed, that according to the manuscript procured at Maldeh, the Sultan Ibrahim, grandfather of Hoseyn, was deprived of his life and throne by a converted Hindu, who assumed the name of Jalaludin; and Hoseyn did not recover the government until a rapid succession of murders and insurrections, had weakened the authority of the Hindu and of his successors. During a long period of 76 Muhammedan years, the son of Ibrahim, and his family seem to have found refuge in the dominions of the Komoteswori, whose government afterwards Hoseyn overthrew.

Near Kumarirkoth is a small square fort, with bastions at the corners. It is called Mogulikoth, and

was occupied by a Muhammedan officer from the time that this district was reduced, until the establishment of the British government rendered such pretty defences unnecessary. Kumarirkoth (Canerycotta R.) which surrounds the office of police and adjacent town, was built by a young lady of the Vihar family, and of course went to ruin, when the fort of the Mogul arose.

IV

RELIGION, SECTS AND TRIBES*

In the next place I proceed to give an account of the tribes, which appear to me to be aboriginal of Kamrup, and to be strongly characterized by their features, as belonging to the great eastern race of mankind. In this district by far the most numerous and important of these tribes, by the Asamese, Nepalese, and by all such Bengalese as are not under the influence of their chiefs, is called indiscriminately Koch and Rajbongsi, and the subdivisions and distinctions, which they themselves have introduced, are considered as effusions of vanity, and of no importance, the whole being thought low and impure. This opinion, as naturally might be expected, is exceedingly disagreeable to their chiefs, and especially to their princes, who pretend to a divine origin, and many of them observe the Hindu law with such purity, that in their own territory, at least, they are allowed to be real Sudras, and the Maithila and Kamrupi Brahmans admit them to be such; but the Bengalese hold them in the utmost contempt. I have no doubt, however, that all the Koch are sprung from the same stock, and that most of the Rajbongsis are Koch; but I am inclined to think, that many of the former are of different tribes, and having abandoned their impure practices, have been admitted to a communion. In fact there is reason to suppose, that until very lately, the different tribes of Kamrup permitted intermarriage. Thus, it must be observed, that Koch Hajo, the valiant chief who seems to have expelled the Moslems from the northern parts of this district, married his daughter to the Mech Herya, and from this marriage, with the doubtful assistance of the god Sib, are sprung the very principal chiefs of the Rajbongsis. There is also reason to believe, that Mohiram Chandhuri of Mechpara is descended from the tribe called Rabha. Such at least is the tradition privately given among his people; but he himself, as usual, pretends to be descended of the Khyotriyos, who escaped from the violence of Porosuram by flying to Chin. He only, however, would mention a few of his ancestor's names, as I suspect, because on remounting to a distant period, as in the Vihar family, we should come to names totally barbarous. In the Sangskrita language of the Tantras, the Koch are called Kuvach, and by their neighbours the Kochharis they are called Hasa.

Panikoch—One tribe of Koch remains in a very rude state of society, and its members are still thinly scattered over all the north-eastern parts of this district, Asam, and the lower parts of Bhotan. I shall begin with giving an account of these which I took from the people of a village, containing about 20 houses, that I found in the forests of Porbot Joyar. Having previously gained their confidence by a bottle of brandy, I made them a visit, and was very kindly received.

In order to distinguish themselves, they assume the name of Pani Koch; but among the Bengalese are often confounded with the Garos, merely because their man-

*For passages which precede and follow the extracts in this section, see the District Handbook for Cooch Behar—A.M.

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ners are somewhat similar; for the two languages have no affinity. Nor has the language of the Panikoch any affinity with the Bengalese, which is now however universally adopted by the Koch, who have deserted their ancient customs. Their language and religion seem to have a considerable resemblance to those of the Rabhas.

The Pani Koch live amidst the woods, and frequently change their abode in order to cultivate lands that have been enriched by a fallow. They cultivate entirely with the hoe, in what is called Garis, of which an account will hereafter be given. I shall only observe, that they seem to cultivate with more care than their neighbours, who use the plough, as they weed their crops, which the others altogether neglect. As they keep hogs and poultry, they are better fed than the bulk of the Hindus; and as they make a fermented liquor from rice without distillation, their diet is more strengthening. The custom of drinking fermented liquors, prepared from rice without being distilled, seems peculiar to the Chinese and other tribes of the eastern race, and is never employed by such of the Hindus as drink, who always prefer the strongest spirits. Many of the Garos, and other rude tribes, preferred wine to brandy, which is never done by an Indian toper.

The clothing of the Panikoch is made entirely by the women, which is indeed the case with all the people of Kamrup that at all adhere to old customs. Their cloth is in general blue, dyed by themselves with Indigo, which they rear, and has usually red borders dyed with wild Morinda. The whole cloth is made of cotton of their own rearing, and they may be considered as better clothed than the common Bengalese. Their huts are at least equally good with those of the Bengalese, and are not raised on posts, like those of most of the other rude tribes; although this seems peculiar to the tribe of Porbot Jovar, for the huts of the other Panikoch, that I saw, were raised on posts, and much more comfortable. The people of Porbot Jovar, however, had small sheds, raised high on posts; and on the old stumps of trees to which they retired on the approach of wild elephants, which are their most formidable enemies. Their only arms are spears, and they use iron in their implements of agriculture, which is not the usual case in many of the parts of this district, that are considered as more civilized.

The Panikoch are permitted to eat swine, goats, sheep, deer, buffaloes, rhinoceroses, fowls, and ducks, and they sometimes snare peacocks. They do not eat beef, and reject dogs, cats, frogs, and snakes, which are used by some other of the wild tribes. They use tobacco and strong liquors; but reject opium and hemp. They eat no tame animal without having offered it to God. Their ideas of rank are diametrically opposite to those of the Hindus, and approach nearer to those of Europeans. They consider that a man is higher the more indulgence he gives to his appetite, and they acknowledge the superiority of the Garos as being eaters of beef; while they assume a precedence over the Rajbongsis, who rejects most kinds of animal food.

The men are remarkably gallant, and have given the whole property to the women, while these in return are exceedingly industrious, spin, weave, plant, sow, brew, and in short do every work that is not above their strength, such as felling trees or the like. When a woman dies, the family property is divided among her daughters, and when a man marries, he goes to live with his wife's mother and obeys her orders and those of his wife. Marriages are usually settled by the mothers of the parties, when these are young; but not without consulting their inclinations. Women, who happen to be unmarried after they have grown up, select a husband according to their own discretion, and after their husband's

death they may marry again. The expense of marriage is heaviest on the mother of the girl, who pays 10 Rs. while the boy's mother gives only five. This large sum is expended on a feast, which is given to all the relations, and on the sacrifice of a fowl to their god, and by these the ceremony is completed. Not above one person in twenty of a mature age remains unmarried. The people seem to be very short lived, as I saw none who had a grey hair. Girls, who are frail, can always procure their lover for a husband. Under such rule a man cannot of course be permitted to take more wives than one, nor are concubines tolerated, and if a man is known to commit adultery he is fined 60 Rs. If his family will not pay this enormous sum, he is sold as a slave. A person, who cohabits with one of another tribe, must pay a fine of 5 or 6 Rs., and no marriages of such a nature are suffered. A woman is not expected to destroy herself at her husband's funeral. On the contrary, being generally left with some property, a widow selects a young man for a husband.

The deal are kept two days, during which time the family laments, and the kindred and neighbours assemble, eat, drink, dance, sing, and make merry. The body is then carried to the side of a river, and burned, and then every one bathes and returns to his usual occupation. A funeral costs 10 Rs., as during the two days of mourning several swine must be sacrificed to the manes.

This tribe possesses no sort of learning; but there are in it some persons, who are called Deosis, and who are supposed to know more than their neighbours of the manner in which the gods are to be pleased. Although the proper name of these persons in the Koch language is Deosi, as above mentioned, they are frequently out of respect called Brahmans, and sometimes Dalai Lama, in fact any name that the Koch have heard is respectable. These persons are married, and work like other people. The office is not hereditary, and each person is at liberty to employ whatever Deosi he pleases; but some one always assists at every sacrifice, and receives a share.

The Koch offers sacrifices to the sun, moon and stars, and to the gods of the woods, hills and rivers; and every year, when they collect the first crops, they offer some of the first fruits and a fowl to their deceased parents, calling to them by name, and clapping their hands. The Koch however do not seem to believe in a future state.

Their principal worship is paid to a god named Rishi, and to his wife Jago. Every year, at the end of the rainy season, a grand sacrifice to these deities is made by the whole tribe, and occasional sacrifices are offered in all cases of distress. There are no images. The people call on the name of god and clap with their hands; for they have no drum, and in the worship of god noise seems to be considered by the bulk of mankind as absolutely necessary. The blood of the sacrifice is left for the deity, while the votaries eat the meat. The Hindus, as usual say, that these people worship Sib and Parboti, and accordingly I asked the question. The chief spokesman, a very grave intelligent person said, that several Hindus had told him that Sib and Parboti were the same with Rishi and Jago, which might very probably be the case for any thing which he knew to the contrary; but that for his part, he contented himself with praying to Rishi and Jago, as his fathers had done before him. I could not without incivility avoid saying, that he was perfectly in the right; but this opinion was by no means agreeable to an elderly woman, who had before given several specimens of a great fluency of speech. She declared, that she had at least as many gods as any of her neighbours, and that she prayed to every one that she met. She then run over

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the name of every god and Sakti of which she had heard mention among the Bengalese, repeating the same names two or three times, until she was quite out of breath, and then said, that she worshipped the whole of them. I was therefore compelled to pacify her by applauding her piety, so that we parted very good friends.

The Panikoch never apply to the officers of government, but settle all their own disputes, and this is done by a council of the men alone, who submit only to their wives in the management of their domestic concerns. If a man incurs a debt or fine heavier than he can pay, he becomes a slave or mortgages himself, unless his wife chooses to redeem him. The slave works for his master, and receives food and raiment.

Such are the manners of the Panikoch, and such at one time, probably were nearly the manners of all the rude tribes of Kamrup, especially those of the Koch. According to the Yogini Tantra the worship of pilgrimage were made public in duty of frequenting places of pilgrimage were made public in the first century of the Christian era, which according to my idea of the subject, is at very little distance from the reign of Bhogodotto. Indeed this prince is acknowledged to have been the son of an infidel (Osor) who was the guardian of the temple of Kamakhya. Whether his father Norok was a Hindu, and had penetrated into Kamrup, and introduced some degree of improvement, I cannot pretend to say; but, so soon as the Koch became noted in tradition or history, we find that they had adopted a priesthood called Kolita or Kolta. These possessed some learning, and books in the Bengalese language. According to tradition the ancestor of the Boruya, one of this sacred order, and now one of the chief Zemindars of the district, procured this science in the following curious manner. Kalidas, the celebrated poet was originally a very silly fellow; but on a certain time, having been severely beaten by his wife, he retired to the woods, and prayed to Soro-swoti with such effect, that the goddess bestowed on him a pot of holy water, by drinking a little of which he was endowed with great wisdom and genius. For a long time he preserved his water by calling it poison, so pilgrimage to Kamakhya, the ancestor of the Boruya having been in great difficulties, intended to destroy his life, and took part of the supposed poison, by which he was immediately inspired with wisdom and learning. Whether or not the Kolitas received any instruction from Kalidas it would be difficult to say; but they no doubt had some science, and continued long to be only spiritual guides of the Koch, and indeed in some places still retain by far the chief authority over that people. In Assam there are several religious instructors (Gurus) of this class who have 10 or 12,000 pupils totally devoted to their service; and an insult offered to one of them by the late king of that country, hurled him from the throne of his ancestors, on which he never again would have sat, had not the strong arm of the Company been held out in his favour. It is not therefore wonderful, that in the account of Asam, published in the second volume of the Asiatick Researches, the people of that country are said to be Asamians and Koltanians, the former the temporal lords, the latter the spiritual guides, and then perhaps still more powerful than even now, as at that time the princes were infidels (Osor). What tenets the Kolitas, while independent of the Brahmans professed, I have not been able to learn; but that they were not orthodox there can be little doubt; as in the Yogini Tantra the Koch Hajo, the chief of the followers of the Kotas, is plainly called a Melechcho or barbarian. At this time however, the nation had in general betaken themselves to the plough, and the Kolitas could read the Bengalese language, and that

seems at least to have been in frequent use. The power of the Kolitas received a severe blow by the introduction of the Kamrupi Brahmans by Visu the grandson of Hajo, who chose them as his guides in religion; and the Kolitas were under the necessity of following the example of their prince, and of receiving instruction (Upodes) from the sacred order. Still however, under the Brahmans, as I have said, they retain much power, and more than one of the princes of Vihar have rejected the Brahmans, and chosen to return to the guidance of the ancient priesthood. These persons have now entirely adopted the Hindu worship and customs, and are contented with being considered as pure Sudras, an honour that is not conceded to them in any place, except where they are in great power. They therefore everywhere else endeavour to pass themselves as Kayosthos or scribes, and I have mentioned, that probably all the Barondro Kayosthos are of this origin. The Kolitas have not so far separated from the Koch, as to reject intermarriages, and frequently honour a Rajbongsi by accepting the hand of his daughter; but in such cases the wife cannot presume to eat with her haughty lord.

The Kolitas and most of their followers have taken the part of Krishna, and assume the title of Bhokot or Bhokto, that is worshippers, as being alone those who follow the true God. They have of late been very successful, and in Assam particularly have converted not only the sovereigns of that country, but many of the ignorant tribes of mountaineers, Garos, Rabhas, Mech, &c.

I have already said, that the Koch have assumed various designations and distinctions, according to the different degrees of compliance, that they have yielded to the Hindu law, and the different degree of restraint on their appetites, to which they have chosen to submit. In the parts of the district, where there are many other Hindus, and where the Hindu doctrine of purity and impurity has gained a complete ascendancy, the highest of this tribe who in all things conform to the Hindu doctrine, at least as moderated in severity to suit the temperament of Kamrup, are exclusively called Rajbongsi; although I must allow, that all Rajbongsis are not Koch. Still however by far the greater portion are of that tribe. In such parts persons only who degrade themselves by carrying palanquins, are called Koch, and those who are still farther contaminated by eating pork and fowls, and catching fish, are called Dauy or Gorol. But in other parts, where the Hindu doctrine has less prevailed, all are indiscriminately called Rajbongsis. Thus in the territory of Khungtaghat (Bisnee R), belonging to one of their very highest chiefs, almost every cultivator is called a Rajbongsi; but they are divided into two kinds, the Bhokot or worshippers, that is of Krishna, and the Gorami who eat pork and other abominable food, and who openly abandon themselves to strong liquors. These have exactly the same customs which the Dauyi of the vicinity of Konggopoor, and of the Polyas Dinajpooor, and probably retain the same customs, that were practised by the whole tribe before the time of Viswo Singho. It is on this account, that they seem to have been called Goramis or family persons, just as those in Europe, who retained the customs of their ancestors, were called Pagans, from living in retired villages, when their obstinate adherence to old customs came to be a term of reproach. These Goramis worship chiefly Kamakhya, who probably continued to be the chief deity of the tribe from the time of Bhogodotto, until that of Viswo Singho. In other parts again, such as in Assam, Nepal, and Bhotan, the whole tribe, except the Kolitas, is called Koch, from the Dorong Raja down to the lowest peasant that rears pigs or fowls. The

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whole persons of this tribe, every class included, and also all Rajbongsis, whose origin it would be now difficult to trace, may from about 18 per cent. of the whole population of this district.

Khyens—The Kamrupi tribe of next importance is the Khyen. In my account of Dinajpore, where there are a few, I was induced by the Pandit to class them as a tribe of the Maithilo nation. He was naturally led to this conclusion by observing that their Brahmans were of that country; but on coming to Kamrup, where the tribe is numerous, he learned their history, of which account has given in treating of the Komoteswor Rajas. They are the only tribe of Kamrup, that the Brahmans of Bengal will admit to be pure Sudras, which clearly shows the great power, that their princes held; for, except the Kamrupi Brahmans, no other person of the sacred order would drink water from the hand of the Vihar Raja, although they are in general willing to admit the divine origin of his family, and his own extraordinary sanctity. The Khyen of course observe the Hindu law in all its purity. In the same mountainous tract east from Bengal, from whence I suppose the Komoteswor Rajas to have come, is a tribe the name of which a Bengalese would write exactly in the same manner, as he does that of the tribe of Kamrup. Some account of it may be found in the account given of Ava by Colonel Symes, and in a paper of mine in the third volume of the Asiatic Researches. I should have supposed, that these two tribes had a common origin, were Kiayn or Khyen the name that those in Ava give to themselves; but it is merely a name given to them by the people of Ava (Myamma) and little or no reliance can therefore be placed on the identity of sounds. The Khyen in this district may amount to 8000 families.

Rabhas—The Rabhas constitute a tribe of Kamrup, which is chiefly confined to the parts of this district, that lie towards its eastern extremity; but there it contains a large proportion of the inhabitants, and may amount to 2000 families. The Rabhas are divided into two kinds, the Patis and Rongdaniyas. The former, who are the most numerous, have adopted the language of Bengal, and cultivate with the plough. The latter retain original language, of which a specimen is given in the vocabulary.* It has in some instances a similarity to the original language of the Koch. The term Patis, given to those who have adopted the language of Bengal implies little, as having been degraded. Even these still retain the original customs of the tribe, have in no sort adopted the Hindu doctrine, and intermarry with those who still retain their native dialect.

The Rabhas seem to have been divided into different branches, Bingga, Ringga, and Rabha, and the last subdivision being the most important, its name has been communicated to the whole. In eating and drinking, the customs of the Rabhas are entirely the same with those of the Panikoch, only that they are more addicted to intoxication, and use hemp for that purpose. Their funeral ceremonies are also nearly the same, only the mourning of the family of the deceased, and the feasting of the neighbours lasts six days in place of two. The ground work of their religion is also the same with that of the Panikoch; but they have added considerably to the superstructure. Rishi is their chief a most powerful deity, and he is considered as very old, and has a wife named Charipak. These two gods are supposed to live in heaven (Rongkorong). By the orders of Rishi a deity, named Taklobra, made this world; but he is not an object of worship. Every

Rabha, who has the means, should once a year sacrifice a hog to Rishi, and a goat to Charipak, and at the same time he should make offerings of rice, liquor and flowers; but as such a sacrifice costs 15 Rs., many content themselves with performing this duty once in two or three years. There is no image of any of these Gods.

One of the terrestrial deities, Dhormong, who presides over Chorehachu, a very lofty mountain, that terminates the Garo hills towards the north-east, has been elevated, both by Rabhas and Garos, into a personage of great consequence, and is supposed to be the common inflictor of all evils. In common cases, such as sickness, the people content themselves with making an offering of any kind to this god, and do this in any wood near their house; but in great calamities, such as a long continued drouth, that threatens famine, the people ascend Chorehachu, where there is a large rock called Dorong, that is supposed to represent the God; and before this rude emblem they offer a black goat. The Rabhas also have adopted the worship of the village deities, and those which they endeavour to appease by sacrifices are, Mohes, Dhonopal, Rakhal, Thakur, Sonaray, and Ruparay, all males, and Suvochom and Chondi, both females. They seem to have no knowledge of a future state, and when they wish to swear, they say, such or such a god hears what I say, and will punish me, if I speak falsehood. In such cases, they may be most believed, when they invoke the name of Rishi; but, in general, they are considered as not strict adherers to the truth.

The persons among them, who have committed to memory the prayers, which are offered to Rishi, are called Roja, the appellation given by the Bengalese to all those who pretend to cure diseases by incantation. In each village of Rabhas are one or two Rojas, who pray at every sacrifice to Rishi, and on each occasion receive a piece of cloth, one-fourth of the hog, and some of the liquor. Any person, who chooses to learn the form of prayer, which is called Rishi Tatita, may become a Roja. The principal difference between the Rabhas and Panikoch arises from the mode of succession, and the rank of the women.

When a man dies, his sons divide the property. The eldest receives a larger share than the others, and is bound to pay a larger share of any debt, that the parent may have incurred. The sons take care of any dependent female, that there may be left; but these are very few; the widow, unless very old, can immediately procure a man, who will keep her, and the daughters are always in request. If a man dies without sons, the whole of his property goes to his brothers, or other male relations, on whom the females, both widows and daughters, are left entirely dependent.

Girls are usually married at the age of twelve or thirteen years, and are sometimes older than their husbands, and even at such tender ages parents do not insist on marrying their children, without consulting their inclination; neither is an unmarried woman of 20 disgraced or unmarriageable, and at such an advanced age courtship is tolerated. A young woman, who should have a bastard child by any person except a Rabha, would incur great censure; but would not be unmarriageable; and her offence would be expiated by a fine and entertainment. A Rabha cannot marry a strange woman; and, if his wife has a connection with a strange man, he must expiate her crime at a considerable expense. If the adulterer has been a Rabha, a hog and a little liquor are sufficient. The Rabha women however are reckoned infinitely more chaste than the neighbouring Hindus, and few offences of this

*This vocabulary is at the Library of the East India House; but it is too extended to be printed in this work.

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nature occur. Widows are permitted to live with widowers as a superior kind of concubines; and even a man, who has a virgin spouse, may share his affections with a widow, and the children by her are not disgraced; but this is usually avoided, the squabbling of the women under such circumstances being intolerable. A Rabha may marry as far as seven wives, and give each a hut, and these being all of the same rank, and having nothing to object to each other, their disputes may be possibly endured; it is very rare, however, that a Rabha ventures upon more than one wife at a time. The marriage is accompanied by a sacrifice of fowls, and offerings of liquor to Rishi. And by a feast given to the relations and friends. It cannot cost less than 30 Rs., and the richest do not spend more than 40. The man or his father, is at the whole expense; but gives nothing to the parents of the girl. Divorce is allowed on no account.

No Rabha learns to read and write. All their women weave, and the men may follow any profession; but they chiefly confine themselves to agriculture, and the cutting of timber. The Rabhas have no hereditary chiefs; but all transgressions against their customs are punished by assemblies of the people. For justice they have recourse to the officers of government. They are a strong race of men; but uncommonly timid.

Kachharis—The Kachharis form a tribe, of which a few families are settled in two eastern divisions of this district, and a great many in the lower hills of Bhotan, and in Assam. Indeed they allege, that their prince was sovereign of that country, when it was invaded by its present rulers; and he still retains the sovereignty of a considerable extent of hilly country south from Assam, and east from Silhet (Cachar R.). It is perhaps from this territory, that they derive the name usually given to them; for my informants say, that the proper name of the people is Boro. Although long separated from their prince, and scattered through dominions of more powerful sovereigns, they allege that they still retain their loyalty, and every year contribute to give him support. Each family, wherever settled, gives from one to five Rs., which are collected by persons regularly deputed from Kachhar the number of families in this district may be about 200.

The nature of their language may be seen in the vocabulary. It is never written; but a few persons have learned to read and write the Bengalese, which may be considered as the learned language of Kamrup. The customs of the Kachharis a good deal resemble those of the Rabhas; but they have made some more progress in the arts. Part only indeed use the plough, and part still adhere to the hoe; but they have not only some men of letters, that is who can read and write; but also merchants, goldsmiths, blacksmiths, coppersmiths and carpenters, and every woman weaves. Their manner of eating and drinking is the same with that of the Panikoch, and they burn the dead.

A man's property after his death is divided equally among his sons by virgin wives; or, if he has none such, among his sons by widowhood or unmarried concubines; but his brothers succeed in preference to his wives or daughters, who are left entirely at the mercy of the men. Sons by concubines, if there are sons by wives, receive nothing, except by will or donation.* The

*The laws of legitimacy relative to property and rank are so various and complex in different parts of India that it has been deemed necessary to preserve a great deal of Dr. Buchanan's remarks on marriage, and the position in which children stand to their parents in the eye of the law, which in India chiefly depends on custom.—ED.

Kachharis are excommunicated, if they marry a woman of a tribe, which they consider low, such as a Rahh; but they would willingly accept the daughter of a Rajbongsi. They cannot marry any relation either by father or mother. A man may marry seven wives, but no more, and many have in fact two or three; but in general one is enough, although each is allowed a separate hut. A married woman, who commits adultery with a person of rank, is not divorced; but, if a woman married single, or widow, has connection with a man of a low tribe, she is excommunicated. Boys are usually married at 15 or 16 years of age, and girls at about 10, and the whole matter is arranged by the parents, before the parties are informed. If a girl cannot procure a husband so soon, she is not disgraced, even should she have a child when in waiting, and at 20 very few remain unmarried. The parents of the girl receive 30 Rs., and the whole expense, which may amount to about 20 more, is defrayed by the parents of the boy. The marriage is celebrated by a feast, where there is plenty of drink, and a hog is killed as a sacrifice to the goddess Janakhana.

The chief deity of the Kachharis is Sijn, who lives in heaven, who created the world, and who has a wife Moyning. Offerings of fowls, liquor and fruit are made to Sijn, and of fruit to Moyning. The Kachharis have no images of these Gods, but the people of Bhotan, who also worship them, have images. Agrong is a male deity, to whom offerings are made in the open air, and at any place, in order to prevent disease, famine, and the attacks of wild beasts. At the Raja's house there is a temple of brick dedicated to this divinity. Besides these gods, which seem to be those, that are proper to the tribe, the Kachharis pray to any other, that come in their way; but they believe neither in witchcraft (Jadu,) nor in devils (Bhuts). They think, that Sijn punishes perjurors with disease, death, or some other evil, and therefore use much solemnity in their oaths. They raise a small heap of earth, which they call Sijn, make an offering before it, fast a whole day, and then touch the heap of earth, while they deliver the oath. They have no knowledge of a future state.

They consider the Kolitas as their spiritual guides, yet I cannot learn, that these persons give them any instruction, nor do any thing farther, than to accept some annual presents. Each village chooses a person called an Achar, who punishes all those who transgress established customs, and who performs some ceremonies at marriages and funerals; but possesses no form of prayer like Rojas of the Rabhas.

The Kachharis, that I saw, were stout men; but remarkably stupid and timorous; even brandy could scarcely give courage to the person who accompanied me, while the Pandit procured the words of his language.

Mech—The Mech are a tribe of Kamrup, that appear to have been once more numerous, that they are at present, and to have undergone great changes. A large district, Mechpara, derives its name from having been their abode; but there the whole have disappeared, and, it is to be presumed, that they assumed the title of Rajbongsi, when Viswo Singho, the son of a Mech's wife, became sovereign of the country, and, being ashamed of his barbarous ancestors, discovered that he was the son of a God. In Mechpara, however, and the territory adjacent towards the west, there are a good many families of a tribe called Kuri, who are said to have originally been Mech; but, although they have adopted the language of Bengal, and some of the Hindu customs, they have not been able to wean themselves so completely as the Rajbongsis from their impurities, and are not therefore

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permitted to assume this name, as they live in a part where the Hindu customs prevail. Near the west bank of the Brahmaputra are a good many Mech, who have exactly the same customs as the Kuri, and who are not ashamed of their original name. A few families of the Mech, who, as the Hindus would say, continue to wallow in all their impurity, frequent the woods of this district towards the borders of Nepal and Bhotan; but the tribe forms a chief part of the population in all the territory between Vihar and the mountains; especially near Dalimkoth and Lukidwar. I procured no account of their customs; but am informed by a person who knows them well, and who is descended either from the Mech Herya or the God Sib, that they differ very little from those of the Kachhari, and that Siju is also their principal deity. In the vocabulary will be seen a specimen of their language taken from one who lives in the N. W. part of the district, whom I found to be a most strenuous worshipper of Bacchus. Including the Kuri and Mech, both rude and civilized, there may be in this district about 600 families.

Nepcha—In the same vicinity are about twenty families of a rude tribe called Nepcha, who have nearly similar manners, but for the present I have deferred taking any account of them, as they form a numerous class on the frontier of Puranya, where I hope next year to visit them. As they eat pork and beef, both Hindus and Moslems agree in considering them as quite abominable.

Hajong—Near Linggamari are perhaps sixty families of Hajong, who are the original inhabitants of the adjoining territory of Koroyvari, and whose chief was lately its proprietor. Their number being very small, I shall pass them over, by stating, that in this district at least, they have adopted entirely the language of Bengal but continue to delight in all the impurities of the Patl Rabhas. The chief however, whose ancestors had long possessed the territory, pretended to be a Rajbongsi and observed some sort of decency. He neither eats pork nor fowl, nor does he publicly drink strong liquors, and he receives instruction, (Upodes), from a Brahman. His estate was lately purchased in the name of the Raja of Vihar.

Garos—In this district perhaps, 300 families of Garos still remain; but of late rapid encroachments have been made on this simple people by the inhabitants of the plains. Some of them here, and a great many in Assam, have been weaned by the Kolitas from eating beef, and even those who have been received into the castes of the Hindus. What I have to say concerning them, I shall reserve, until I treat of the nations bordering on this district.

Hira—If we exclude the Dom fishermen, or Nodiyal, from the tribes of Kamrup, which I doubt cannot be done with propriety, the only tribe of that country, which seems to have had a separate profession, is the Hira, or potters, of whom in the eastern quarter of the district there are perhaps 600 families. They are considered as a very impure tribe; but do not keep swine, and they are very rude in their art, having no wheel for forming their ware. I now proceed to treat of the manners adopted by the Hindus of this district; but for many particulars, especially belonging to the tribes of Bengal, I must refer to my account of Dinajpore.

Brahmans—The Barondro Rarhi and Baidik Brahmans of Bengal, and the other Hindus from that country, observe the rules of purity and ceremony as in their own country; only it is not lawful to use in their ceremonies the grass called Kus, (*Poa cymosuroides*), and in its stead is used the Kese, which is the sacred grass

of Kamrup. The reason assigned for this is that the five sons of Pandu never penetrated so far, and that the country is therefore impure.

The Maithilos and Kamrupi Brahmans, and their followers, especially the former, allow themselves many liberties in eating, and use a great deal of meat, many of the Kamrupis eat ducks and pigeons, and the Maithilos even use castrated goats, although the last cannot be offered in sacrifice; but this is not allowed in the Yogini Tantra, which extends its indulgence only to the two former.

Many pure Hindus, and even Brahmans, intoxicate themselves with opium, hemp is not so commonly in use. Many of the Maithilos avow openly, that their worship is accompanied by the drinking of liquor, and afterwards they do not retire, until sober, but mix in company. Many of the Rarhis and Barondros of the sect of Sakti worship in the same manner, but while intoxicated, they have the sense to avoid being seen.

The funeral ceremonies are nearly the same as in Bengal, only the mourning (Sraddho), is not by one half so expensive. The ceremony to a poor man will cost only from two to five rupees. Among the Brahmans of Bengal, there is no Mouriporas to perform any funeral ceremony over a dead Sudra; but to the higher Sudras they give in writing, a form of prayer; which any of the relations may read on the occasion. The Maithilos and Kamrupis are not so scrupulous; but read prayers at the funerals of the chief Sudras, and are not disgraced by their condescension.

None of the Kamrupis nor Maithilos enjoy privileges in marriage, like the Kulus of Bengal; but are sought after in matches according to their wealth and learning. The proper law of Kamrup allows no woman to be married after the age of puberty, and the higher classes comply, but many girls of the lower tribes do not procure husbands until between 15 and 20 years of age. In such cases restraint is in general not expected, and parents are seldom at the pains to watch. Nor is a child by a person of the same caste any considerable impediment to the girls procuring a husband. The marriages are not near so expensive as in Bengal proper, and a Kamrupi or Maithilo Brahman can be very well married for 40 or 50 rupees, and even a Rarhi or Barondro may be here married for 100. Kamrupi-Brahman parents never take money for their daughters, the Maithilos and Rajbongsis do; and, if the girl is very handsome, they sometimes receive more than defrays their whole expense. There are in Kamrup no Ghotoks, who preserve pedigrees, and make up marriages, nor does any persons live by this employment. The Maithilo and Kamrupi-Brahmans are content with one wife at a time, and do not publicly keep concubines. The Rajbongsi of high rank marry several wives, and without danger to their caste, may keep any kind of concubine.

By the law of Kamrup, two kinds of concubine are permitted. A Rajbongsi widow may become a Kain, which is usually translated by the Hindustani word Nekah; but here the contract is not accompanied by any religious or civil ceremony. The parties may separate whenever either pleases, and the children cannot be married to persons of the father's rank, in respect of dignities and riches; but they may be married to children of pure birth, who, in other points, happen to be greatly inferior.

A Rajbongsi girl, who has never been married, may live with a man as a concubine, and is called Konyapatro. There is no religious ceremony at the union; but an entertainment is given to render the contract notorious. These women are more respected than the widowed

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concubines, and living with them is considered as more honourable for the men. The children by such connections can more readily be married than the children of widowed concubines; but the mothers being generally low women the rank of the children is affected. The Konyapatro cannot be turned away, and she can marry no person except her keeper. It is said that according to the original custom of Kamrup, the whole children thus born of a Konyapatro, might at any time be rendered legitimate by a subsequent marriage, and that among the lower Rajbongsis this is still sometimes practised. The two parents, being poor, wait until their children grow up to enable them to defray the expense of the ceremony. Since the introduction of the Bengalese manners, however, such economy has become rare, and the higher class of Rajbongsis declaim against its impropriety, nor will they suffer any person to marry a Konyapatro after she has borne a child.

Premature marriage is considered so necessary to Hindu ideas of propriety, that even the unfortunate children, who are brought for prostitution, are married with all the ceremony to a plantain tree, before the age when they would be defiled by remaining single.

Among the Rajbongsis an unmarried woman who has had a child, must either live with her first lover or is considered only as a Kam, so that she is reduced to the rank of a widowed concubine. It is only persons who have no Brahman as an instructor, and whose chin a barber will not condescend to smooth, that are permitted to marry girls, who, without any sort of contract have allowed themselves to depart from the rules of chastity; but persons of this kind form perhaps one-half of the Kamrupi Hindus.

The widows of Kamrup are permitted to burn themselves with the bodies of their husband, or even to throw themselves into a pit filled with fire, along with anything that belonged to him; but neither practice is at all common, and in the course of a year not above three or four widows are sacrificed in the whole district, exclusive of Bottrishazari; but every year on that estate alone four or five widows usually burn themselves. The very lowest castes, such as the Chondal, sometimes perform the ceremony. Very few widows have been known to join the prostitutes.

In Kamrup there seems to have been little or no distinction of castes from profession, and each caste, or rather tribe, practised all the arts, which were known in the country. They were farmers, traders, blacksmiths, goldsmiths, carpenters, extractors of oil, potters, weavers, dyers, artificial flower makers, preparers of tobacco, bricklayers, workers in bamboo, parchers of rice, and preparers of curds; but they had not the art of shaving, or washing, or bleaching, of working in leather, or of making paper, sweetmeats, butter, or Ghee. All these arts seem to have been unknown, and now are entirely followed by strangers, while the old arts are in general practised indifferently by all. The basket-makers, however, of Bengal, being a very low tribe, none of the Kamrupis will make these for sale. In all the remote parts the arts of weaving and dying seem to have been exclusively practised by women, as is the case in Ava; but now the example of the Bengalese have induced many Rajbongsi men to confine their labours to the shuttle, for which women appear to be much better fitted. The potters of Kamrup seem to have been unacquainted with the lathe, and formed their vessels merely by kneading. There can be little doubt that in a short period of years, the doctrine of caste will be fully extended to trades, although as yet it has made little progress, except where the arts were unknown. The artists of Bengal being better work-

men, will gradually spread, and the example of these will, I have no doubt, be followed.

The sect of Sakto prevails most commonly among the Brahmans and Kayasthos, and most of the Sudras are worshippers of Vishnu; but the last Raja of Vihar having adopted the worship of Sakto, many people on his estate in this district have followed his example. All persons, however, except the very Goswamis, offer sacrifices to the Saktis when in distress.

In this district there are many villages which have no Devata, or village god. Still such objects of worship are very numerous, and in my account of each division I have mentioned those that are most common. Few or none of them have Pujaris, or officiating priests, each man's Purohit attends at the sacrifices that are offered. I am informed that according to the Rahunondon in his treatise called Kratyotoottwo, Vyas gave orders that after the 2500th year of the Kaliyuga, that is to say a long time after his death, the Gramdevatas should lose all their power. If Vyas gave any such order, it is a pretty clear proof that during his life he could not venture to make such an encroachment on the religion common in the country at the time; for I have no doubt that these Gramdevatas are the gods that were originally worshipped in the country while its inhabitants were still rude tribes. Before Vyas, in my opinion, Gautama had attempted to make a similar reform; but that teacher had no more success than Vyas, and the Gramdevatas continue not only to be worshipped in almost every village of India; but in Bengal their worship has even become that which is most prevalent among the Brahmans; for no one can deny that Kali is a Gramdevata, and Kali is the grand object of the Sakti worship. Indeed all the female Gramdevatas are considered as different forms of the same deity; but this appears to me a kind of philosophical refinement which is often introduced in order to conceal the glaring difficulties of popular doctrines. Take from a pagan deity the name and attributes and there remains nothing, nor can I discover any circumstance common to the horrid Kali and the gentle Kamakhya, by which a common nature can be inferred.

In this district the Chorokpuja is not performed at the same season as at Calcutta, or as in Dmajpoo. Here it is performed on any day of the months Chaitro, Vaisakh, Jaishtho, Ahsar, or Srabon; but it is most usually performed on the last day of Chaitro, which is the only day on which it can be performed at Calcutta in honour of Sib. Here, as in Dmajpoo, it is never performed in the honour of any other God; but at Calcutta, it is often performed in the honour of Dhormo Raja, a judge of the infernal regions.

The same aversion to take an oath that exists in Bengal, prevails here also among all the higher ranks of Hindus, and there seems to be a similar want of knowledge concerning a future life.

Although, as I have mentioned, some of the most essential ceremonies are attended with a more moderate expense than in many parts of Bengal, yet the Hindus are at more charge in religion than the Moslems, which will probably occasion the more rapid increase of the latter in the natural way of propagation, as the Muhammedan families will have greater means of subsistence. In this district the profits of the Guru are less than those of the Purohit.

The Pandit Brahmans of Bengal are Gurus for all the others of the Sakti sect, and for the highest of the Sudras of the sect of Sakti. The few of the lower tribes of Bengal who follow this Sakti worship are

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instructed by the Vorno Brahmans that are their Purohits. The Brahmans of Maithilo and the Kamrupis are not disgraced by acting as Gurus for Khyen or Rajbongsis; although in Dinajpore none but a Vorno would give these last instructions (Upodes).

In the account of the different divisions I have mentioned the chief Gurus, who preside over the worshippers of Vishnu, that form by far the most numerous class of Hindus in this district. In the parts west from the Chhonnokosh the Goswamis of Bengal have secured a large proportion of these, and Kumjokisor of Ronggopore has by far the most extensive jurisdiction. He and the others frequently travel through their respective districts and give Upodes to very high and pure personages. For lower persons of pure birth they employ Odhukari Brahmans, that is proprietors; for these pastors have a property in their flock, and may gain 14 or 15 rupees a month, besides what they give to the Guru. It must be observed that there are two kinds of Odhukari Brahmans. Some are proprietors of a flock of people, whom they guide, the others are proprietors of a temple and image of God. The first in this district are not much disgraced, and although not called Pandits, which is confined to the Sakti sect, are more respected than the Vishnois, who have accepted of the service of men. The Odhukaris, who are proprietors of a temple are as much respected as the Vishnoi, if they keep a Pujari to perform the drudgery of the God; but if they degrade themselves by acting in this manner no Vishnoi will marry in their families.

The Goswamis for the lower castes, and even for the Rajbongsis, employ Sudra instructors, partly Vaishnav, and partly Khyen and Rajbongsis, and such persons may clear seven or eight rupees a month, besides what they give to the Guru. In this district the Vaishnavs thus employed are usually called Vairagis, although totally different from the Vairagis of the west of India, and the greater part of them are even married men. Many Rajbongsis, and a few Khyen also, have separated from the vulgar, and are employed to instruct the followers of the Goswamis. Their office is hereditary, and they also are called Odhukaris. The Goswami of course shares in the profits of all these subordinates; but it is not supposed that Kumjokisors profit from this district exceeds 500 Rs. a month; the family, however, possess other jurisdictions of property. In some parts the Goswamis entrust the collections of their dues to persons called Fauzdars, who have under their authority deputies called Chhoriburdars, and account to him for what they receive; in others they rent the collection to Izaradars, all these persons are mere laymen, have Persian titles for their offices, and take no share in the instruction of the people. In other parts the Goswami entrusts the collection of his dues to those, who are his deputies in performing the sacred office.

In the western parts, however, a considerable encroachment has been made on the rights of the sacred order by some persons of the medical tribe, who are called Sorkar Thakur.

In the parts of the district, which were subject to Porikhyit Raja, and in Asam, the plan differs a good deal, except where some encroachments have been made in Bahirbondo and Bhitorbondo; but even there the eastern Gurus retain some of their power, as is also, in a small degree, the case in Vihar proper, and in the part of the district west from the old Tista. In these Eastern regions the Bhokot, or worshippers of Vishnu, are much more subjected to their Gurus, who are called Mohajons or persons of great wealth, a title usually given to merchants. They are also called Mohapurushor, great men. Many of them are Kamrupi Brahmans; but the greater part, and those who have the greatest num-

ber of followers are Kolitas. These instructors have large thatched halls, where they reside, and instruct their pupils (Sishyo), and many of these always attend the Guru, and work for their mutual support, while others remain in general at home, take care of their families, and only attend occasionally for instruction. In order to assist them in the care of the numerous flock, which many of these great men possess, they employ deputies to reside in places, that are chiefly convenient for the instruction of such, as family concerns prevent from a due attendance on the chief. These are called Medis, and are attended in the same manner as their masters, but by smaller numbers; and they also contribute to his support and power.

Among the Gurus of Kamrup, both Brahmans and Kolitas, who instruct the people in the worship of Vishnu, there has arisen no less than four schisms, of which I could give no account, when treating of the schisms of the Brahmans, because two of them have arisen from the influence of Kolitas. The doctrines, from whence these schisms have arisen, are called paths (Pontha), and the first had been pointed out by Chaitonyo, a Bairiki Brahman of Srihotta, and seems to have been that, which was followed, when the doctrine was originally introduced into Kamrup. In my account of Dinajpore, I have mentioned this person's history. Not contented with this path Damodor, a Brahman of Kamrup, pointed out another, and many endeavour to find their way to heaven by his rout; but two Kolitas, Senekordev and Madhovdev, have persuaded many, that the paths, which they have discovered, are more advantageous. I have not learned exactly the differences of doctrine, on which these schisms are founded; but the followers of Chaitonyo are called Vaishnav, and the residences of their Gurus are called the house of God (Thakurvari), or palace (Pat); while the followers of the other three paths are called Bhokot, and their residence is called Chhotro, or umbrella.

These Mohajons, and their assistants the Medis, seem to give themselves more trouble than usual in the instruction of their followers. They not only teach them a form of prayer (Upodes), but seem in some measure to preach. Assembling 40 or 50 of their scholars, they instruct them in their duty, and read some books, which were composed by their great doctors, and which consist chiefly in extracts from the Bhagvot translated into the vulgar language of Kamrup. The other Gurus, as usual in India, content themselves with giving a short exhortation, at the time when they teach the form of prayer. This superior attention is probably the reason, why the preachers of the East have acquired so much power over their flocks, and also has been the cause of their success in converting many of the rude tribes.

The number of people in the tribes, upon whom no sort of impression has been made by the Brahmans, is very inconsiderable, and in the Appendix, are included under the general name of Asurik, strictly signifying persons who have no god, that is who worship gods different from those of the Hindus and Moslems, each of whom now acknowledges, that the other has a law. If indeed I had included all the low castes, who receive no instruction from Fakirs, Brahmans or persons employed under this priesthood, such as the Pati Rabhas, Dauvi, Gorami, Rajbongsis, Bede, Jagis, etc., etc., I should have increased the number of Asurik to a very considerable proportion of the whole, that do not profess to follow the Koran; but among the Hindus I have included all those, that have adopted the language of Bengal, and have thus separated themselves from the persons, who by both Hindus and Moslems are considered as little better than brutes in

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the shape of men; (see account of Asam in the 2nd volume of the Asiatic Researches).

The Purohits, or priests who perform the ceremonies of religion in Kamrup have much more profit, than those who instruct the people. The Pandits of Bengal act as Purohits for all pure Hindus of that country above the rank of tradesmen, and generally understand more or less of Sangskrita; but many of them, who are called Dosokorma, know very little more than to be able to read it, and their science consists in knowing how the 10 most usual ceremonies ought to be conducted. Still lower are some Brahmans called merely Purohits, who have little or no learning more than Vornos, and officiate for the lower castes of pure Hindus. The Brahmans of Bengal do not act as Purohits for any Kamrupi tribe and the whole profit of that flock is still enjoyed by the Maithilos and Kamrupis. These abstain from assisting the low castes, such as the Rajbongsis who still retain their impure customs, and who form $\frac{1}{4}$ of the whole, and Dauyi, Koch, bearers of the palanquin and the like; but have extended their care to many of the tradesmen of Bengal, who have settled in Kamrup.

All the Brahmans of Bengal settled here have sense enough to continue in the society of women; but several of the Maithilos and Kamrupi have gone to Benares (Varanasi), and have relinquished the world (Dondi). Some of the Brahmans of Kamrup, who are spiritual guides (Mohajons) in the eastern parts of the district, have deserted their wives, without however becoming Dondis, and are merely called persons without a family (Udasin).

Separation from the pleasures of the world not being adapted to the constitution of Kamrup, three classes of Brahmans dedicated to God have come from the west of India; but as they seem to meet with less attention, their number is smaller than in Dinajpore, and one of them has had little or no success in supporting the pious resolution of this profession. The most numerous, by far, are the Sonnyasis of Songkor Acharyo's congregation (Somproda); but only two convents (Akras) pretended to abstain from worldly affairs, and in my account of Sonnyasikata I had occasion to mention the submission, which one of these has made to the power of the flesh. The others are keen merchants and farmers, and one convent (Akra) has purchased a considerable estate. These merchants do not presume to beg; but are occasionally visited by more regular brethren from the west, who give them instruction, and receive their charity. No merchants seem to be more successful, as in every part of the north of India they have numerous brethren, that lend each other mutual assistance. The traders are little, if at all, respected; but considerable respect is shown to such as live in their Akras, rent land, and cultivate by means of those who are rewarded by a share of the crop.

The men dedicated to God, and belonging to the Sri Somproda, or congregation of Ramanuj Acharyo, are called Ramayits. They are not so numerous as the Sonnyasis; but their conduct is very correct. I have already given an account of the manner in which they live. The manner of life and conduct of those called Nimayit, belonging to the Sonoksomproda, are nearly the same, and they are equally respected. Their number is very small. The whole convents (Akras) of the two orders may amount to 28. The Sudras of Bengal dedicated to the service of God, here as in Dinajpore, are called Vaishnom, and in general I may refer to the account of them, which I have already given. I am however told, that I have been misin-

formed, when I stated, that any family, after having been for some generations dedicated to God, might be received into full communion with the Vaishnom. That in reality is confined to a peculiar caste, which brings them to almost an exact resemblance with the Vaishnavum of the south of India, whom I have supposed to be the remains of an ancient priesthood. Persons not of this caste, who assume their manner of life and name, have no sort of claim to the dignity. In the south the Brahmans alleged that the Vaishnavum are very careless in forming their marriages, and a similar opinion prevailing among my Bengalese assistants, seems to have been the cause, why I received the account, which I gave in Dinajpore. It must however be observed, that impostors must frequently succeed in obtaining admission among the proper Vaishnom, and that the opinion of the Brahmans may have a strong foundation in truth. The number of families of Vaishnom, pretended or real, may be between 13 and 14 hundred.

In this district there are only about 50 convents (Akras) of Vaishnom, who have left their families (Udasin); but there are a good many vagrants, who without having any just claim, pretend to belong to these institutions. The Vaishnom here, who have deserted their families to live in Akras, are usually called Brokot, and often Viragis, while those who have families are often called Songjogis, and in some places Chhokure. A family that lives entirely by begging may make 3 Rs. a month; but many rent lands, many make beads, and many perform as musicians, and thus add a little to their incomes.

Sudra—The Sudras of Kamrup are noted without persons dedicated to God. In the eastern parts all the followers of Chaitanyor, of whatever caste, are called Vaishnom; but among them there are many who have left their families, and serve God and the Guru. These are called Udasin, and those who remain with their families are as usual called Gribi. The followers of the other three paths (Pontha) are called Bhokot or Bhokto, and prevail so much, that among the neighbouring rude tribes this name is applied to signify a Hindu or Bengalese. The Bhokots who remain at home are called Sadhu those who live with their Gurus, in the service of God, are called Kewolya. Some of the Medis or inferior teachers, but not all, are selected from these persons, who have deserted their families, and who not only beg, but work for the benefit of their superiors. The Vaishnom and Bhokot who have separated from their families totally reject the worship of the Saktis and village Gods; but the others have not been able to relinquish the flesh of sacrifices. In the western parts of the district none of the tribe of Kamrup have separated from their families, although many act as deputies for the Brahmans in the instruction of the lower orders.

The Sudras of the west of India called Vairagis, who have deserted their families to live in the convents of this district, are not numerous. There are in all 25 convents, and they are very poor. Each convent on an average may contain five Vairagis, and this average may be extended to all the convents of other kinds. The title Vairagi in this district is often given not only to the Vaishnom, who inhabit convents, but to such, as without having put themselves under such a restraint, are employed by the Goswamis to instruct the lower castes.

Among other species of worship, the Hindus are fond of pilgrimage. In the topographical part will be found an account of the places in this district, that are frequented by the pious; but great numbers pass through the country to Kamakhya, and are a heavy

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burthen on some of the Zemindars who choose to feed them. Many from this district go to that place, and occasionally some go to Jagannath, Kasi and Goya. This is chiefly done, when a Brahman comes from any of these places, and undertakes to conduct a flock. The hospitable roofs of the Kangkinya and Bamondangga Zemindars afford every accommodation to these persons, until their flocks assemble, and the poor Bengalese have not that turbulence, of which his contemporaries were so much accused by Xenophon (*proem. in libro de Cyri Inst.*) but offer themselves with the utmost readiness for the use of their pastors. The only difficulty that the Brahman encounters, is in coming so far; his stay here, and his return is comfortable and advantageous.

For maintaining the rules and discipline of castes, those of Bengal follow nearly the same customs as in other parts, only there are very few of the Company's called Dols, and it is only in Bahirbondo that there are many Dolpotis. In my account of Dinajpore I have explained these terms. The Brahmins, Kayasthas, and intermediate tribes, settle all offences against custom in assemblies of the chief people in the neighbourhood (Punchaet). The lower castes have chiefs called Poramaniks or Prodhanas, whose office is not hereditary. These are in general appointed by the proprietors of the land, with the consent however of the caste, and of the spiritual guide, and are very much under the influence of the latter, who shares in all fines. The chief profit of the Poramanik arises from his being the cook at marriages, when he receives a piece of cloth and 3 or 4 annas in money.

In the western parts the tribes of Kamrup follow nearly the same plan, the Khyen and Rajbongsis, who reckon themselves pure, decide all matters of caste in assemblies, while the Danyi, impure Rajbongsis, and other low tribes have chiefs (Poramanik). In the eastern parts again every thing is settled by the Medis, appointed by the spiritual guides. The plan, which is followed in Haworaghat, may serve as an example for the whole. The priest (Purohit) of the Vijn Raja, to which chief the territory belongs, has drawn up a proper code of rules called Prayoschitto Tottoo, which is generally observed. Each Medi has under his care a company (Mel or Kel), which contains about a hundred families of the worshippers of Vishnu (Bhokot) of all castes. Each of these has its own Poramanik, for there all the Rajbongsis are also called Koch, and do not pretend to be judged by their peers (Punchaet). When a person has been discovered in the transgression of any rule of his caste, as described in the code of laws, he is in danger of excommunication, and must humbly entreat the Medi to remove the scandal, which is done by a fine. Almost the only transgression committed in that quarter, arises from the good nature of the men, who in Haworaghat are particularly obliging to their wives, and will not see many frailties. The fine is usually one rupee, and in extraordinary cases arises to double that sum. With this, as there is no small money, the Medi purchases salt, which is divided into 10 equal portions, of these one goes to the Raja's priest (Purohit); one is taken in the Raja's name, but this also falls to the share of the priest; one goes to the easy man's spiritual teacher (Guru); one to his priest (Purohit), and six are divided among the Medi and the kindred of the delinquent. The Raja's priest is said to make about 500 Rs. a year from his fifth share of the fines in Haworaghat alone, where the whole population may be rather more than 40,000 people, of which not above a half are subject to these rules of caste, the Muhammedans, the impure Gorami Koch, and the Rabhas, making a large proportion of the inhabitants.

NATURAL PRODUCTIONS OF RONGGOPOOR

Animals—In the woods of Mechpara are found two kinds of the ape, both called Hulluk by the natives. The one, which is of a grey colour, seems to be the *Simia Moloch* of Audibert; and the other, which is black, with broad white eye brows, is the second variety of the long-armed ape, described by Pennant. Although the colours of these two animals are very different, their manners, shape, and cry, are so much alike as to give room to think that the difference arises from some accidental circumstances, that I have not been able to trace.

The Hulluks live in considerable herds; and although exceedingly noisy, it is difficult to procure a view, their activity in springing from tree to tree being very great; and they are very shy. In the dry season, when water is scarce, and they are under the necessity of leaving the woods to procure drink, they are often caught, as nothing can be more awkward than their walk, which is always erect. The old ones, when caught, are very intractable, and seldom live long; but the young ones are readily tamed, are fond of being caressed and scratched by men, and of playing with dogs; but they are extremely irritable, and impatient of restraint. Although uncommonly ugly and misshapen, the Hulluk has much less grimace than a monkey, and is not so exceedingly dirty and indecent; but it seems to be endowed with less intellect, vivacity, and courage. The two animals have a mutual detestation; but a monkey always puts to flight an ape larger than itself. Spiders and grasshoppers seem to be the favourite food of the Hulluks; but they also eat fish and wild fruit and leaves. They have three kinds of cry, all shrill, harsh, and monotonous. One somewhat resembles Ayu, ayu, ayu, and seems to mark impatience; another is like Ula, ul, ul, with nearly the sound of vowels and accent of the English word huzzah; the third is a short kind of bark wou, wou, wou. These two last seem to express various degrees of satisfaction. The resemblance of apes to mankind, and the painful education that has been given to the few which have reached Europe, having led to opinion concerning their faculties, as far removed from truth, as a description of the leaped pig would be an accurate representation of the groveling race, I have entered more fully into an account of this animal's manners, than its consequence otherwise would require. As this animal has nails on the thumbs of its hind hands, for they cannot with propriety be called feet, it must be classed with the Pongo of Buffon; but it will be a distinct species, if that great naturalist was sufficiently accurate in stating, that the Pongo has no callosities on his buttocks; for both the grey and black Hulluks have that distinguishing mark, although it is much concealed by the length of their hair.

The short-tailed monkey, called Morkot by the natives, and described in my account of Dinajpore, is found in the woods of this district; and I have already mentioned the great colony of this vile animal that is on the hill Tokoreswori. At Nenggotiyar Pahar, North from Yogighopa, there is another, but not so remarkable. In Bengal the monkeys, which have tails longer than their body and head, seem in general to be called Longgur. In the woods, near Goyalpara, I observed a herd, but had no opportunity of observing them close. Although nearly of the same size, they seem to differ from the Honuman on the banks of the Ganges, in being all over of a pale yellowish red, and in being remarkably shy. It is probable, that they may

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be of the kind, which Audibert has called *Simia Entellus*. Both species of monkeys live entirely on vegetables, and in Mechpara are many destructive in both gardens and fields. The apes living chiefly on insects, do not harm to the natives.

The *Lemur tardigradus*, by the natives of Mechpara, where it is sometimes but rarely caught, is called Loj-jawoti Banor, or bashful monkey. In comparing it with a monkey, the people here have been more successful in their classification than those of Hindustan, who call it a cat. It is, however, an animal of prey, and feeds, I believe, chiefly on small birds which it takes at night, and is then very active. Its manners in some respects resemble those of the bat, as it is dazzled by the glare of day, and then retires to rest, hanging from the branch of a tree, much as the large bats of India do.

The common black bear of India is occasionally found in the wilder parts of the district; but is not numerous. One of their principal haunts is in the old ramparts of Komotapoor, where the holes, which they dig in the earth, are secured from being filled with water. Many also haunt Singeswor forest, and sometimes kill a person that has straggled near. They destroy mangoes, jaks, plantains, and honey; but do no harm to the crops nor herds. The proper name in this district is Bhandi; but towards the south the word Bhaluk is in common use.

Otters are very numerous, and in the northern parts of the district a few skins are procured by farmers for the Bhotan market; but this kind of hunting is not carried to the extent of which it is capable. A few of the hunters from Dhaka, who are of the tribe called Gangrar, frequent the banks of the Brohmoputro, and kill otters for the traders of that city. Their first step is to catch a living young otter, and these are procurable between the middle of November and the middle of December. During the two following months is the season for hunting. The hunter goes to a place frequented by otters, ties the young one to a bush or reed, and conceals himself near. Its cries soon bring the old ones, which the hunter strikes with a harpoon. The hunter as usual is paid in advance, and is allowed half a rupee for every skin. Each hunter takes in advance from 5 to 10 Rs. for the season, at the end of which he delivers the skins that he has procured, and settles his account. The otter of India is about 34 feet from the snout to the end of the tail.

Foxes (*canis Bengalensis* Pennant) and jackals are numerous in every part of the district; and I heard of a hyæna having carried away two children; but in this district this is not a common animal. On the north-west frontier towards Nepal, I heard of a wild animal called Hingra. It is said to be like a jackal; but whether or not it is a wolf, I was not able to determine; for in no part of the country could I induce any person to bring me the wild quadrupeds. In the same vicinity I heard of another animal seemingly of the canine tribe. It is called Kuhok, and by the natives is said to be of two religions. The Moslem Kuhoks live upon hares and deer, while the Hindus content themselves with carrion. They produce between the middle of November and middle of January, and the young are then sometimes caught; but I had no opportunity of seeing one.

The tiger, commonly called Govagha by the natives, on account of its killing cattle, in most parts of the district is very seldom seen. In Bottrishazari, one of the countries most exposed to their depredations, a man

may be killed once in two or three years, and from 16 to 20 cattle may be annually destroyed. Even the buffalo has been known to fall a prey to the Govagha, of which I never heard an instance in any other part of India. In the eastern wilds, tigers are by no means so troublesome as I expected; and the injury which they commit is still less considerable than in Bottrishazari. They seldom, I was told come on the plains; but are very numerous among the Garo mountains. Leopards are not more common than tigers. In Mechpara and Molonggo, I heard also of the small animal of this kind (Nakeswori), that is said to live on trees; but although I offered very considerable rewards, I could not procure one either dead or alive.

Porcupines are not so numerous as in Dinajpoor, and are still less sought after for food. Hares are very abundant in every part of the district, even on the left of the Brohmoputro. Thus I did not expect, as to the east of the lower part of its course, this animal is not found. In some parts of the district, chiefly towards the west the farmers have nets, and are at the trouble of catching the hares. In others they are totally neglected, or when people are hunting deer, they may occasionally be at the trouble of knocking down a few hares with a stick. Rats are very troublesome and destructive, especially a kind, that, as the winter crop of rice comes to maturity, and the fields become dry, forms large holes under ground, where it hoards up grain to last it for the season. Poor boys are very diligent in the search of these hoards, and often procure a very considerable quantity of grains.

Both in the woods of Mechpara, and in those of Bottrishazari, the Pangolin is found. In the latter it is called Keyot Machh, or the fish of the Keyot (a tribe of Hindus). In the former Katpohu (timber animal) is the name by which it is known. The reason assigned for this name is, that it lives in the hollow trunks of trees. It is a very rare animal, but very much sought after, as its flesh is supposed to possess strong aphrodisiac qualities.

Elephants are numerous throughout the two eastern divisions, and may frequent the parts of the two divisions towards the north-west, that are situated towards Nepal and Bhotan. Of late years they scarcely ever have penetrated into any other part of the district, and seem therefore to be on the decrease; as 20 years ago they often came far south. They are exceedingly destructive to the crops of grain; and notwithstanding vast labour and trouble taken to watch the crops, do much injury. When the rice approaches maturity, every man, in the parts which the elephant frequents, is under the necessity of watching through the night. Stages are erected on posts 12 or 14 feet high, and on one side of whom always mount the same stage. One feeds a fire that burns constantly on the open part of the stage, while the other in his turn, is allowed to sleep, except when any wild animals such as elephants, deer, or hogs, come into the field; then he is roused, and both unite in shouting and in making all the noise they can with sticks or drums. They never attempt to attack the animals. The principal haunts of the elephant in the rainy season, seem to be the Sal forests; in the dry season they chiefly frequent the thickets of reeds, by which so much of the country is overgrown. They very rarely go upon the mountains. Their two principal retreats however are Porbotjoyar, and the deserted tract of the country which is situated between the Garo mountains, Mechpara, Kalumalupara and Koroyivari. During the whole night that I slept at the entrance to this tract from Nivari, the roaring was incessant. Near this I observed a regular road, which was said to be one of their paths, and that in their

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excursions they usually frequent one route, which soon becomes well beaten and smooth. I no where heard of their attacking men; but a very large one, which I saw swim over the Brohmoputro in the height of the floods, landed at Goyalpara, and in his passage through the town overthrew several huts that were in his way, while he was eating the plantain trees; so that a very general alarm being spread, I was under the necessity of sending people to shoot him. This animal was a male, and had neither tusks nor tail, and was looked upon by the natives as a curiosity, although the loss of his tail was probably a mere accident.

In this district very little progress has been made in the art of taking and taming these valuable animals. Several of the proprietors of land have tame females trained for the purpose (Kumki). These are provided with a long rope, which is fastened to their girdle, and then coiled on their back. On its end is formed a noose, which a man who sits on the back of the trained female, throws round the neck of the wild elephant, and then the tame one walks away until assisted by another tame female, endeavour to fasten ropes to his legs, and he is dragged to a place where there are tame. He is then led to a more convenient place by the tame females. The elephants usually caught in this manner are too small, being seldom procured more than 6½ feet high; and a larger proportion of them seem to die, than of those which are caught by being surrounded with a fence (Khada). The Vijni Raja formerly paid his tribute in elephants; but, as very few survived, and as they were seldom of a good size, a value was put upon each that he should deliver, and the payment has been taken in money. It is however, more to be attributed to the manner of catching, than to the defect of the breed, that the quality of the elephants which he delivered was of so inferior a nature; and I have no doubt, that the people of Chatigang would in this district procure most excellent cattle.

In Mechpara at Haworaghat a few elephants are occasionally caught in pitfalls (Dhor). These are dug in the paths above-mentioned 12 cubits long, 8 deep, and 4 wide, and carefully covered with branches and earth. People provided with means of kindling torches watch near, and when an elephant falls, they suddenly come up with lights, and make a noise which drives away the herd. If they were not disturbed, the others would help their companion to escape. When thus deserted, ropes are made fast to the captive, and tied to trees. The people then dig, and throw in pieces of wood and earth until the poor animal is able to come out of the pit, and is placed in a state of discipline. This also is a very bad manner of catching elephants, as they are often so much injured in the fall that they do not recover. Many elephants are killed for their teeth. The people employed are Raibongsi, Garo, Rahja and Kachhari farmers, who usually are allowed one tooth, and give the other to the proprietor of the land; but it is said, that the Vijni Raja takes both teeth, and only makes the hunters a present. In the north-west part of the district the elephant seems to be totally unmolested, at least by the people of Bengal, who neither attempt to kill, nor tame them.

In most parts of the district there are only a few hogs; but in the two eastern divisions, in the two towards the north-west and near the forest called Singheswor, and near the woods of Pangga Raja, they are very troublesome and destructive. The Hindu farmers there, have nets, in which they catch the wild hog, and he is considered as pure food. No attempts are made to eradicate the breed, which indeed, I believe, could only be done by clearing the country. Even in the clear

parts of the country, although the lower Hindus kill the wild hog on purpose to eat him; no attempt is made to extirpate the animal. Most people suffered loss by them, in parts of the district where there is little waste land, and where the few wild hogs that are found, nestle in the thickets by which the villages are surrounded.

Everywhere that there are forests and extensive thickets of reeds, the rhinoceros is not uncommon; and in the two eastern divisions several persons make a profession of hunting this animal, which is quite harmless, and neither injures the persons nor crops of the inhabitants. It is a solitary animal, nor at any season does the male live in the society of the female. The rhinoceros is killed on account of the horn and skin. The horn is in great request, being considered as possessed of great medical virtues, and it is employed for making bracelets and cups, that are used in the religious ceremonies of the Hindus. A good horn is worth 6 Rs. on the spot. The skin is used for making targets. Each skin gives five or six cuts, of which the two best are on the hips. Each skin according to its size is worth on the spot from 2 to 3 Rs. The proprietor of the land usually gets the horn, and the hunter (Pahulwan) is allowed the skin; but the landlord is generally cheated.

In the two eastern divisions, the hunters that kill the rhinoceros and elephant, may be about 60 or 70 in number, and are employed chiefly by four merchants residing at Dhubri, of whom one is a Bengalese and three are Siks. All the hunters are farmers, and employ only a part of their time in the pursuit of game. Each man usually receives 6 Rs. at the beginning of the season, and may kill one or two rhinoceroses and one elephant; but he also occasionally kills buffaloes for their skins and horns; at least these are the only saleable parts. The hunters of course eat the meat, as they do also that of the rhinoceros. The hunters use a large piece called Kamchunggi, which requires a rest to enable the hunter to take an aim. Poisoned arrows are also employed both for killing the buffalo and elephant, but it is only fire-arms that are sufficient for killing the rhinoceros.

In the two eastern divisions deer are exceedingly numerous, and very destructive, and there are many in the two frontier divisions towards the north-west. In other parts they are scarcely known. Among the natives musks, deer and antelopes are included under one Generic name, which in the Sangskrita is Mrogo, in the Bengalese is Horin, and in the vulgar dialect of Kamrup is Pohu. In other parts this last word is considered as applicable to any quadruped. I shall commence with the largest.

The stag is by far the most common deer of this district, and by the natives is called Gaoh and Bhalonggi. In travelling through the two eastern divisions I saw a great number, and had a great deal of difficulty to account for their appearance. In April and May I saw none that had horns; and every herd, that I observed, had young ones, so that I concluded all which I saw, to be females; and they were all of a light red colour, exactly like the common red deer of Europe. These were the Bhalonggi of the natives. In November and December, again, all that I saw were full grown, had all horns, and were therefore evidently males. These by the natives were called Goaj, and were all of the brown kind with long hair under their necks, like the *Biche d'Ardennes* of Buffon, which seems to be the same with the greater Axis of Pennant, or with what Europeans in India commonly call the elk. The natives of this district allege, that there is one

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only species, and that all the males are dark brown, and all the females light red, and the appearances, so far as I saw here, would induced me to join in their opinion, had not I in other parts seen both males and females of each kind. What became of the males in spring, and of the females in winter, I know not; but among many hundreds seen at each season, all the kinds seemed to be of one sex. Both seemed equally fond of the company of the wild buffalo, which probably serves them as a protector.

At Goyalpara the axis or spotted deer is called Borokhotiya, and the procine deer is called Khotiya; but neither are so common as the stag. The *Cervus muntjac* of Gmelin, or rib-faced deer of Pennant is sometimes found near Goyalpara, where it is called Maya. The common Antelope, or *cervicapra* is found but rarely in this district, and is confined to its Northern parts. By the natives it is called Kalshangr.

No person in this district makes a profession of hunting deer, nor are their skins in request; but many farmers employ their leisure hours in killing them, and thus procure a supply of excellent food, which is partly used when recently killed, and partly preserved by being dried in the smoke. This is done by carefully removing the fat, and separating the muscular fibres into slips of about the thickness of the thumb. The deer are caught in pitfalls by guns and by nets. Occasionally a sportsman goes out at night with a lantern tied to his head. The deer approach to view the extraordinary appearance, and the man takes the opportunity of killing them with arrows.

In all parts where deer are found, the wild buffalo is very common, and exceedingly destructive. It is a handsomer animal than the tame breed, and in its motions has a much finer carriage. Many are caught in pitfalls by the farmers, who frequently also catch young ones alive, especially in the rainy season, when the inundation confines the herds to a few high places. On such occasions the farmers in their canoes attack a herd with spears; and, after having killed or dispersed the old ones, are often able to secure some of the young.

Besides the hunters (Pahulwan) of the rhinoceros and elephant, who occasionally kill the buffalo, there are a few hunters (Kangri), who pursue this animal alone. These also are farmers, and receive advances from some traders of Goyalpara for the horns and skins, which are sent to Dhaka. Two or three hunters generally go together, and without attempting to conceal themselves, shoot the buffalo with poisoned arrows. The slightest wound proves fatal in 5 or 6 hours, during which the hunters watch the animal, and avoid a near approach, until he is dead. The poison is a root brought from the snowy mountains, which seems to be in universal use throughout India. Twenty buffalo hides bring the hunter from 2½ to 3 Rs. When a herd of wild buffaloes is very troublesome, and will not remove for the shouting and noise of the villagers, a little grain procures the assistance of these hunters. They kill five or six, and the remainder go away. They seem rarely to hunt, except on such occasion, as the whole number of skins procured is very inconsiderable.

In the Brohmoputro there are many porpoises of the kind described by Dr. Roxburgh in the Asiatic Researches. They are killed by the tribe of fishermen called Gangrar, who use the oil. According to these fishermen, the porpoise brings forth her young between the 11th of February and 11th of April, and bears only one at a time. They do not give suck for more than a month by which time the teeth of the

young have grown, and they are able to provide for themselves. The male and female do not pair. They are seen in copulation between the 13th of May and 14th of July, so that their period of gestation is about 9 months. They have been caught 7½ feet long, and 6 feet is the common size. They live entirely on fish. They may be taken at any season; but the most convenient is from the middle of January until the middle of March. The fishermen in a fast rowing boat watch their coming up to breathe, which they generally do repeatedly near the same place, and strike them with a harpoon, that has three slender barbed prongs of iron about a foot in length. These are fixed into one end of a piece of wood; the other end goes into the hollow of a slender bamboo, which serves as a shaft; but the piece of wood separates from the shaft, whenever the animal is struck; and is connected with it merely by means of a rope; and this is the case with all the kinds of harpoon, that these fishermen employ. The shaft floats, and enables the fishermen to follow the porpoise, until it dies. After the entrails and bones have been thrown away, the whole body is cut in pieces, which are melted in an earthen pot for about an hour and a half. The oil is then strained from the flesh by means of sack cloth. One porpoise gives from 10 to 15 seers (84½ sicca weight) or from 21½ to 32½ lb. of oil, which is not saleable, and is used by the fishermen themselves, partly for the lamp, and partly for making torches, with which they attract large fish towards their boats, and thus strike them. Should there arise any demand for train oil, much might be procured by this fishery, as porpoises swarm in every large river of Bengal.

It will not be necessary to enter into a detail of the birds, that are found in this district; as in general they do neither harm to the inhabitants, nor are they applied to any use; yet birds of the genera of pigeon, partridge, quail, peacock, pheasant, bustard, bittern, plover, snipe, and duck of a great variety, and many of them very good, are in an extraordinary abundance. These however are not the kinds most in request among the natives, who, when they eat any wild bird, which is very seldom, prefer small herons, shags, and sparrows to all others. The wild fowl (*Phasianus Gallus*) is very common in the woods, but is so very unclean a feeder, that it is impossible to endure it as food.

In the account of the tribes, by which this country is occupied, I have mentioned two, the Nohiyas and Telenggas, which catch birds with a rod, the end of which is besmeared with bird lime. Some of these birds, chiefly parakeets, are tamed, and sold; but the greater part of what these poor creatures catch is eaten by themselves, and it is very seldom, that they can find a purchaser for any part of their game.

The farmers near Goyalpara catch many young Moynas (*Gracula religiosa*) Phoridis (*Psittacus ginguanus* B) and Tiyaas, which is the most common parakeet of Bengal, but does not seem as yet to have been introduced into the systems of ornithology. It comes nearest to the *Psittaca torquata* of Brisson. In the same parts is also frequently procured the Bhimarj (*Lanius malabaricus*), which sings with a fine mellow voice, like that of a bull-finch but louder. All these are eagerly bought up by the boatmen from the south, and the parakeets are distributed among the idle fellows about all the towns, to the great annoyance of every person, who wishes to sleep after break of day.

These two kinds of parakeet, and Bawoyi (*Loria typhina*) are exceeding great nuisances to the farmers of the two eastern divisions, who are compelled to watch their crops by night to drive away elephants, hogs, buffaloes and deer, and by day to scare these

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birds. The millet (China, Kangni) suffers in particular from their depredations, the flocks being inconceivably numerous. The Kam, a bird approaching near the *galinula porphyrio*, is very numerous in ditches and ponds, and destroys a great quantity of grain. Large flocks of a crane called Kolong, and of another called Saros (*ardea antigone*) frequent this district in winter, and eat much rice. They come from the north in the beginning of the cold season, and retire when the heats commence.

In the dry season the pelican (*pelicanus philippensis*) is very common on the sands of the Brohmoputro. In the rainy season it is said to frequent the Garo mountains, where it breeds. In November and December I observed many thousands of them, in flocks, soaring high over the land between these mountains and the Brohmoputro. They always fly in lines like wild geese; but on these occasions the lines crossed each other in various directions forming numerous squares and parallelograms, as if in a regular dance. It seemed to be merely for amusement, that the pelicans were thus employed, as they do not fish like the gulls by darting on their prey, but wade quietly along the shore, until a fish comes within reach of their enormous gape; nor were they emigrating from one place to another; but continued each time, that I observed them, for more than an hour, to wheel about in various directions, so as constantly to alter the disposition of their lines; but the lines were always strictly preserved.

The Pangga Raja employs 5 or 6 Falconers (Mirshekari), who train hawks, and catch, with the rod and line, the birds with which these are fed. Many hawks are used by the natives; but in this district the two most remarkable are the *Falco minutus*, little larger than a lark; and the Sofyedbaz, a very large Falcon with much white on her plumage, and an expanse of wing of 4 feet. It is an exceedingly fine bird. No other native indulges in this sport.

Reptiles as usual in warm climates are abundant. Near the Brohmoputro both river-turtle and land tortoises are much used in the diet of the natives; but towards the west it is only a few that use them, although according to the Hindu law both are pure. Towards the Brohmoputro a particular class make a profession of catching them, and in all places they are caught by the common fishermen, especially by those who do not use nets, such as the Danyi.

The people who make a profession of catching turtle are the Gangrar, above mentioned as those who kill otters and porpoises. They employ a harpoon with three barbed prongs about four inches in length, and sell the turtle to petty dealers who retail them through the country, especially at the markets frequented by the Garos, who seem remarkably fond of this kind of food. All of them, that I have attempted to eat, appeared to me to be very bad.

Among the natives the river turtles are called by one general name, Kachhim, and there are several kinds, of which the three following approach near to the *cartilaginea*, *triunguis*, *membranacea*, and *ferox* of zoologists; but I cannot refer any of them, with certainty, to any species, that I find described in such books, as are within my reach. They always live in rivers, and never frequent the banks nor marshes as is done by land tortoises. They deposit their eggs in holes formed in the sand, underwater, and eat nothing except fish.

1st. The most common is called Chhim or Panimech. In the Brohmoputro it is very often found five or six

feet long, and 14 inches thick; but I am informed, that they have been caught 7½ feet in length. It lays its eggs between the middle of August and the middle of September, as the floods begin to retire, and in one hole the fishermen sometimes make a prize of 200 eggs. An ordinary sized turtle of this kind is sold, by the fishermen of Goyalpara, for four anas. 2nd. These people informed me of another kind, which grows to the same length with the Chhim; but, when five feet long, is no less than two feet in thickness. It is called Donail, and one of this kind, it is said will weigh 49 seer of 80 s.w. (a little more than 102 lb.). It is said to be very scarce, so that I could not procure one at Goyalpara; but in the west part of the district I found a kind called there Hurum, which seems to be the same. It is reckoned better for eating than the Chhim. 3rd. The species which is called simply Kachhim, or by way of excellence Jat Kachhim, is also very common, and is sacred to a peculiar deity, as I have before mentioned. It is reckoned better eating than the Chhim; but does not grow to more than 18 inches in length. It is readily distinguished by four yellowish circles on its back.

Some other river turtles, in the strength of their shells, and great convexity of their backs, approach nearer to the land tortoises, and by the natives are called Dura; but these give the same name to some land tortoises, the shells of which are not very evidently divided into different shield-like portions. 4th. The Dura strictly so called is a river turtle, not so exceedingly fierce as the three former, which bite most violently, but it is much better provided with defence, as the fore part of the two shells can at pleasure be drawn close together like a valve, so as to cover the head entirely; and for each hind leg. It grows to about 2 feet in length, is reckoned better than any of the before mentioned kinds, and sells at the river side for about two anas.

The land tortoises are called by the generic name Kochchhop; but several of them, as I have now said, are called also Dura, and some also are called by a generic name Kothuya, the exact difference between which and Kochchhop I have not yet ascertained. When placed on their backs, they can all raise themselves, and, although occasionally seen in rivers, they more usually frequent marshes, and often burrow under the ground, and are reckoned better eating, than the latter kinds of river turtle. 5th. The Salidura, called also Dura Kathiya, never grows to above six inches length of shell. 6th. The Kuyi Kathuya grows to about a foot in length. I am not exactly sure, whether or not the Kuyi Dura is different. 7th. The Pangchure grows to the same size with the Salidura, and at Goyalpara sells for 4 anna. 8th. The Khagrakata grows to about the same size. 9th. 10th. The Kori Kathuya and Gangrchipa grow to about a foot in length, and are said never to go into the river.

I have procured drawings and descriptions of four of these land tortoises, without being able to refer them to any of the kinds described in the books which I possess. In the Brohmoputro as well as the Ganges there are two kinds of crocodile, which at Goyalpara are both called Kumir; but each has a specific name. The *Crocodylus gangeticus* is called Ghorial, and the other is called Bongcha. This approaches so near in its form to the crocodile of the Nile, that for a long time I considered it as the same; but its manners are very different, from those attributed to the animal of Egypt; and in the lower parts of Bengal we have what appears to me another species of crocodile called Hangsa Kumir, the manners of which seem more conformable to the descriptions of the Nilotic quadruped.

The Gangrar, who also kill both kinds of crocodile inform me, that they have killed the Bongcha 15 feet in length, and one of this size is much heavier than a Ghorial of 18 feet long, which is the largest that they have seen. In the water the Bongcha attacks both men and cattle, but on shore he is shy and timid, and it requires great caution to be able to approach near him, as on the least noise he rushes to the water. The Bongcha usually frequents ponds and marshes; and it is only when these become entirely dry, that he retires to a river. He lives in holes, which he digs in the bank of the pond or river, and I knew a party of hunters who were a good deal surprised, if not alarmed, by digging out a crocodile, when they expected only a harmless jackal. In these holes they lay from twenty to thirty eggs between the tenth of February and the tenth of March; and give them fish to eat, after which they are able to provide for themselves.

The Ghorial is esteemed a much purer animal than the Bongcha, and never lives in stagnant waters, nor in holes of the earth. It never attacks men nor cattle, and lives entirely on fish. The female produces eggs at the season with the Bongcha. She digs a trench in the sand on the shore of the river, and there deposits 10 or 12 eggs, which she covers with sand, and watches all day, but at night retires into the river, being remarkably shy and timid on shore. The young are hatched between the 13th of May and 13th of June, and for a month require the care of their mother. The eggs of the Ghorial are considered as a remedy for the small pox in the human species, and for the disease in kine, which in the language of Bengal is called by the same name (Bosonto). In Ava the eggs are commonly sold in the markets for food; and in many parts of India the flesh of both kinds of crocodile is greedily devoured. I was indeed informed, that the Gangrar of this district did not hesitate to eat it; but this they denied, probably thinking it disgraceful. When these fishermen are able to steal upon either kind of crocodile, which requires great precaution, they strike him with a harpoon, which has one iron prong about three inches in length, and which is barbed on one side. The plug of wood, into which the iron is fastened, is connected with the shaft, which is a very light bamboo, by a rope of about 12 feet long. In order to make this rope very strong, and at the same time light, it is laid in a very curious manner. It consists of 15 or 16 threads very well twisted, and each containing three lays. The threads are very slightly twisted, and are kept together by knots tied at the distance of a span from each other. This chord is neatly rolled round the shaft. The Gangrar throws his harpoon with great certainty at from 15 to 20 yards distance. On striking the crocodile the head comes out, the rope unrolls, and the animal rushing into the water, the shaft directs the Gangrar where to pursue. This he does in a fast rowing boat, and takes the first opportunity of striking with another harpoon, which has a strong iron, five inches long, and as thick as the little finger; with this, which has a strong rope, he can drag the crocodile on shore. The omentum of both kinds of crocodile yields an oil, which is used for the lamp. The omentum of a Bongcha does not give about 3 sers (60 s.w. 4 $\frac{1}{16}$ lb.) while that of the Ghorial gives from 10 to 15 sers (from 15 $\frac{1}{16}$ to 23 $\frac{1}{16}$ lb.).

The Lizards or Guanas called Godhika, and Sworno Godhika, are not very common, and are not often eaten. Serpents are numerous, but it is chiefly in high places of small extent, which are every where surrounded by low lands, that accidents happen; as, when the floods begin, the reptiles are driven suddenly into one small space, and, before they can find lurking

places, often take shelter in the houses, where they are trodden on in the dark, and bite their assailants. In general however the number of persons stated to be annually bitten in each division was very small and none were said to die; which is entirely attributed to the power of magic or incantation. The bite is usually in a limb, and, immediately on a person being bitten, the Magician is called, and in the mean time a ligature is tied very tight round the limb above the bite, and probably has a considerable effect in mitigating the symptoms; for I once saw a woman stung in the finger by a scorpion, who by immediately applying a ligature seemed in great measure to have avoided the pain, which would have ensued. From the success of the magician we may safely infer, that the bites of serpents in this country are not in general dangerous; but there is seldom an opportunity of knowing the kind, by which any person has been bitten. In Durwani it was stated, that about 200 persons were usually bitten in a year, and that 25 of these might die; but I suspect, that these numbers are exaggerated, as in no other district did the proportion arise nearly to such a multitude.

Notwithstanding the great number of large rivers and lakes or marshes in this district, the people are but indifferently supplied with fish. This seems to be owing to the small skill of the fishermen, who have few means adequate to fishing in great rivers, and chiefly catch those that are almost left dry by the diminution of the water, in which they lived during the floods. This being the situation of the art in both districts the people of Ronggopoor are comparatively less successful than the people of Dinajpoor, because the waters being much deeper do not so readily become dry; and for four months in the year the inundation is so general that the methods employed by the fishermen are of little use. At that season, however, the fields being in general more deeply covered than in Dinajpoor, swarm with small fish, which the farmers can secure; and I have mentioned the manner in which they preserve them for use. I observe that these fish abound in the fields so early as the end of June, which confirms the opinion that I entertained, of their often proceeding from eggs which are left dry and have been hatched by the first rain.

Salt is by far too expensive to be employed in preserving fish; but besides the method of preserving these animals by beating them with vegetable substances, which is practised in the rainy season, a great quantity is preserved by merely drying them in the sun, which is practised in the dry season alone, and chiefly in the two eastern divisions, as the principal demand is from Bhotan and the Garos. All along the great Tista, however, some fish is dried in spring for the supply of the rainy season. The Vinji Raja, who holds lands of Bhotan as well as of the Company, pays his tribute to the former power in dried fish, which he chiefly procures from his estates that are subject to the Company; but this supply is not sufficient for the demand of the Bhotan market, and the Dev' Raja, who seems to have a monopoly of all foreign commerce, sends agents, especially into the northern half of the division of Dhubri, and makes large purchases. The fish dried on the left of the Brohmoputro are sent chiefly to the markets where the Garos deal, and next to salt is perhaps the most important article that is sold to these people. A small quantity of fish is also dried on the banks of the Brohmoputro on the lower part of its course. Some of this is distributed through the western parts of the district, but the greater part goes to the Garos, which border on the district of Moymensing. Fish

APPENDIX III—contd.

prepared in this manner is called Sukti, which signifies merely dry, as if this kind of fish were the only dry thing of any importance. To European taste and smell it is altogether insupportable, but the two nations that chiefly purchase are far from being select in their eating, and all the people of the two eastern divisions like this fetid aliment.

Most of fish that is cured in this manner, as I have before said, is caught in lakes, marshes, and old channels of rivers, but is sent to the sands of the Brohmoputro to be dried. The heads and guts of the fish are thrown away, but the fins and scales are allowed to remain. The fish, if small, is split in two; if large, it is divided into four slides. These are spread out to a sun that is intensely hot, on the extensive sands of the river, where there are no insects, and where in the day every thing is parched and withered by a dry heat. At night the fish are secured in a shed from the dews, which are abundant at all seasons. At the beautiful lakes called Toborong, north from Yogighopa, where this fishery is most extensive, and where from 1200 to 1400 *mans* may be annually dried, the fish are divided into four sorts.

The farmers here use all the simple means of catching fish that I observed in Dinajpore, and also one which I did not notice; but which, notwithstanding, is probably employed. In any ditch, where there is a considerable drain from rice fields, or in any small rivulet where there is a drain from a marsh, they construct a dam, or fence, of bamboos, sticks, and reeds, or sometimes of earth, which not only prevents the passage of the fish, but also impedes in some degree that of the water until it rises to the level of the adjacent fields.

In order to give vent to this they dig three or four narrow semicircular trenches, which convey the water from the higher to the lower part of the channel. Through these narrow channels the fish must pass in going from the higher part to the lower, as the floods subside; and are caught in traps called Thorka placed at the lower ends of the semicircular canals.

The Thorka called also Dhoska and Dhorka, is a conical basket, lengthened far out, so that the fish in getting to its far end cannot run to escape. In place of the Thorka a smaller kind of cylindrical basket called Dengru is often used, and the fish are prevented from coming out by a row of flexible split bamboos converging to a point within the mouth, as in a mouse trap.

In rivulets that have a considerable and rapid current, Thorkas 14 or 15 feet in length are often used. A dam is made across the stream, with a brach in it just sufficient to receive the mouth of the Thorka, and the fish follow the stream, until they are no longer able to turn, nor can they swim backwards against the current.

The impure class of Rajbongsis called Dauyi, catch fish by a somewhat similar contrivance in shallow ditches connected with marshes or rice-fields. In these they lay a long trap called Dhanggi made of split bamboos. The mouth may be six or eight feet in length, and one and a-half to two feet wide. It slopes to an edge behind, being about two and a-half or three feet broad. The fish that enter are prevented from returning by a row of bamboo splits placed as in a mouse trap, and they are shaken out by a hole at one corner, which is plugged when the trap is set. Where there is any stream the fish enter of their own accord driven to the trap, by dragging through the water a rope made of twisted ribs of the plantain tree leaves, the sides of which hang down like a fringe, and alarm the fish as the rope approaches.

The most improved method on a plan analogous to these is practised by the fishermen in the smaller rivers of the eastern part of the district. A dam is constructed, obliquely across the river, of bamboos, sticks, and mats, not so as to contain all the water, but so as to raise it about a foot higher than the level below the dam. Near the lower end of the dam is left an opening about two feet wide and below this is a channel about 20 feet long. The sides are secured by posts and mats; and the floor, which consists of bamboos laid close to each other, is raised a little higher than the level of the river below; and a little lower than its level above the dam. All fish attempting to go down the river follow the current through the opening in the dam; but the channel is so full of crevices, that the fish immediately after entering it are left dry, and by their own exertions are always carried to the lower end where they are caught by the fishermen, who watch in a hut. This kind of weir, it must be observed, is not fitted for a variable climate; a sudden shower that raised the water a foot would destroy it.

The manner of catching fish by collecting them among the branches of trees, thrown into stagnant water, is still more practised here than in Dinajpore, both by farmers and professed fishermen; and by far the greater part of the fish taken in Chilmari, and other parts near the Brohmoputro is caught in this manner. The fishing, in old channels that contain much water, continues from the middle of October until the middle of March. Large quantities of branches are thrown in until they reach the surface, and are held down by weights. After they have remained from five to seven days, stakes of bamboo are driven all round, and to these is fastened, and long enough to surround the branches. The branches are then thrown out and fish are drawn on shore. At one watercourse I found 11 men at work in this manner. They seemed to draw one heap almost every day, and did no other work, the fish being bought from them on the spot by those who retail in the market.

In this district I nowhere saw the kind of trap called Onta, which I have described in my account of Dinajpore; but I understood that in some parts it is used to form the kind of weir called Band, which it would be superfluous to describe again. I also understood that these traps are used by farmers planted near the edges of rivers. In this district this implement is called Ghoni.

The Polo and Jakoyi, also formerly described, are in constant use among the farmers. The fishermen of Goyalpara have improved the Polo, so much as to render it useful for their purpose; and it is then called Chak. The frame consists of a loop, to which four bamboos are fixed in form of a cone. A conical net is fastened to the hoop, and its corner to the angle where the bamboos unite. When this net has been placed on the mud over a fish, the fisher drops the corner, and instead of groping about until he can catch the fish, he secures it at once by the net, which prevents the animal from moving. By this means they catch large fish.

Nearly allied to the Jakoyi, but somewhat more perfect, is a trap made of split bamboos, and called Jholongga. Two boys generally drag the corners by two ropes, and the splashing which they make towards each side, contributes to drive the fish into the trap, which is held like a plough by the fisherman, and raised occasionally to take out the fish. This is one of the methods much in use among the farmers.

APPENDIX III—contd.

Nearly of the same form is the most simple net used by the fishermen, consisting of a net stretched between two bamboos, which meet at an acute angle behind. This I have already described in my account of Dinajpoor, and there are many kinds. At Goyalpara there are four.

1. When a man wades and pushes this net before him, it is called Phutki, and the bamboos are from four to seven cubits in length. Such are used in all places, and at all seasons, for catching small fish, and cost from two annas to two and a-half. 2. The Paha has bamboos of 11 or 12 cubits in length with a large mesh, and is used for catching large fish. The fishermen of Goyalpara have not the art of fixing this net to the gunwale of a boat, as I described in Dinajpoor; but the man who sits at the head of the canoe, lowers and raises it entirely by his hands. The rower sits at the stern. The fish are divided equally between them. 3. The Angtha is of the same size, and is used in the same manner; but the mesh is small. Both nets can be used at all seasons, and in every part of the great river. Each may cost a rupee. 4. The Janata is an implement with a frame of bamboos, which raises a large net of this kind. One man can fish with it, and the whole costs from five to five and a-half rupees. The net lasts two years, but the apparatus must be renewed each season, which lasts from the middle of August to the middle of December, that is from the time when the inundation begins to subside until the country is dry. The mouth of the net is placed so as to receive the water, which drains from the fields into a marsh, creek, or river.

The still more complicated machine, which I described in my account of Dinajpoor, is also used here. At Goyalpara it is called Khora, and on the Mahanonda it is named Chak. The Chak described in my account of Dinajpoor is used here, both by the farmers and fishermen, and at Goyalpara is called Phoronggi; while the improved Polo used there, as I have above described, is called Chak. The Phoronggi is employed from the middle of August until the middle of November.

Of the casting nets there are three descriptions. 1st. A small net six or seven feet radius with a small mesh and iron sinkers. In the Brohmoputro and in large pieces of water it is always used from a canoe, one man paddling and the other throwing the net. The two men divide the fish equally. In marshes and old water-courses it is thrown from the bank. It usually costs 5 Rs., of which the iron amounts to one-half. The fish taken by this means are small; and the net may be used at all seasons. At Goyalpara it is called Khycyual. 2nd. A net with a wide mesh and 15 or 16 feet in radius. It is used only in the river from a boat, which is managed in the same manner as with the first kind. Its sinkers are not heavier, and its cost is nearly the same. At Goyalpara, this net is called Rek. Both kinds at Toborong are called Naojal, or nets used with a boat. 3rd. The large net which is cast by means of a boat, and which I have described in Dinajpoor by the name of Othar, is used also here, but not so commonly as in that district.

Seins or orag nets of various kinds are also in use. At Goyalpara the fishermen use a sein, usually composed of nine pieces, each 30 feet long and about 4 feet wide. The floats are made of the reed called Khagra, and the sinkers of baked clay. These pieces are separately called Tonalanggi, but when joined into one sein that is called Ber. Three men are usu-

ally employed, and each brings three portions. They unite in paying the hire of the canoe, which carries them from one part to another, and contains the fish that have been caught. One man manages the canoe, a second holds one end of the net, while the third takes a sweep with the other end, and then the net is drawn on shore. Of course the net is only employed on the shallow sides of the river, or in shallow marshes or lakes, and is used between the middle of September and middle of December while the waters are fast decreasing.

In some parts as Olipoor, a still smaller sein is used, and is called Gondhla. It is about 39 cubits long and 4 broad, and is used by one man. He fastens one end to a stake, and takes the sweep with the other. It is never used where there is a greater depth of water than two or three feet. The Raulagi is a net which is much used, especially in Toborong lakes, in the smaller rivers of the eastern divisions such as the Jijram, and in many large water courses. The net is like large deep sein from 45 to 80 yards long and four or five deep, with floats and sinkers, and a wide mesh. It is used sometimes merely as a setting net, being stretched from side to side of a river or water-course. The fishers then go to a distance on both sides, and while they paddle towards the net in their canoes, make all the noise that they can by splashing in the water. The fish stick in the meshes.

At other times where the water is too wide for the net to reach from bank to bank, two nets are used with five canoes. One at each end of each net, and one that remains unconnected between the two. One-half of each net is stowed on the stern of the canoe by which it is held, and the two sets go about 40 or 50 yards from each other. They then throw out their nets, the canoes belonging to each rowing straight lines, with the fifth canoe in the centre. The canoes then begin to paddle, so as to form their nets into semicircles, while not only the one in the centre, but those that hold the nets make all the splashing in their power. The two boats belonging to each net then row towards each other, splashing all the while until they meet. They then lash themselves together, and draw the nets into their sterns, bringing up the head and foot ropes of the net joined together. After the whole is drawn the nets are overhauled, and the fish which are sticking in the meshes are taken out. In rivers it is the upper net that takes by far the greatest quantity of fish, and the middle canoe attends to that alone, and splashes opposite to the opening as the two canoes at its ends paddle towards each other. It would therefore appear, that the fish naturally fly up the stream. This seems to be a good plan of fishing in rivers or lakes, where the banks are too steep for drawing the sein. The fish, that I saw taken in this manner, were of about four pounds weight.

In the Brohmoputro, during the beginning of the rainy season, from the middle of April until the middle of August, a floating net called Ohal is used. It consists of three pieces each 36 yards long and 3½ broad, which are joined so as to be 108 yards long. The mesh is wide. It is laid out from the stern of a canoe, and one side is floated by gourds, while the other sinks by its own weight. It is drawn every hour into the boat, and the fish that are found sticking in the meshes are secured. Two men and one canoe can manage this net, which may cost 9 Rs. The nets used in this district are chiefly made of Son (*Crotalaria juncea*); but in the eastern divisions many are made of Kankhura (*Urtica nivea*). These are dear, but are reckoned much better than those made of Son, and last double the time. Some particular classes of fishermen use neither traps nor nets.

APPENDIX III—contd.

The Gangrar, already mentioned as killers of crocodiles, turtle and otters, catch also many fish with the harpoon. With the same kind of harpoon which is used for killing the otter, these men strike the large fishes. In the rainy season they attract these fish to their boats by means of torches. In the dry season they watch near shallow places where there are many fry; and when a large fish comes to prey, he is struck. The three first kinds are supposed to eat floating or swimming plants (Dol and Pana), and are frequently observed raising their heads among these. The fishermen watch for this, and strike them as they rise. It is probable, that these fish often rise to catch insects or worms, that may be among the weeds. I have never in India seen a fish rising to catch flies. The same fishermen use a small harpoon with four slender prongs, which floats, and is darted along the surface of the water to kill a small mullett, which swims with its eyes above the water. This is done at all seasons.

All classes of natives fish occasionally with the rod, partly for amusement, and partly for a savoury meal; but there is a low tribe of fishermen who use the rod for procuring a subsistence, and sell the fish. It is uncertain whether they are Hindus or Moslems, and their profession of fishing does not entirely afford them support. They therefore play on some noisy instruments of music, to which they sing, and go about to beg; and they only have occasional recourse to the rod. The rod used in India for fishing is a bamboo, which has very little flexibility. The line is silk or Kankhura, and is tied to the extremity of the rod without any reel to lengthen or shorten it; and the hook is suspended by a float, and baited with a worm for the cyprini, and with a frog for larger Siluri or Pimelodes, which are the two most common classes of fish. The use of artificial flies is totally unknown.

In most parts the regular fisherman pays a duty to the proprietor of the land; for the strange anomaly of the right of fishing having been separated from the property of the banks, has not taken place in this district, except in some estates, that formerly belonged to the Rajas of Dinajpoor. There are some rivers however, that are entirely free, as having been the boundary between two powers; and the proprietors of Goyalpara have taken nothing from the numerous fishermen of that place. The various rates and manners of assessment differ in almost every estate, so that it would be needless to detail them. The rent is sometimes levied by so much on each man, sometimes by so much on each extent of fishing, and sometimes by so much on the quantity of fish taken. The two former methods are most usual on great rivers. The two last on marshes, small rivers and water courses. In the most productive fishery, that of the Toborong lakes, the last has been adopted, and the Vijn Raja takes one-half of the fish. In Bottrishazari the fishermen pay no rent, but supply the landlord and his officers with whatever fish they want. The landlords very seldom take the rent immediately from the fishermen; but generally rent it to persons for a fixed sum in money, and these collect what is due according to the customs of the estate. In general the duties seem moderate enough, and I heard no complaint on the part of the fishermen; but except at Goyalpara, where they have been long under European protection, they were everywhere remarkably shy, having probably been terrified on purpose by the agents of the Zemindars. I am indeed inclined to imagine, that the profits which these derive from the fisheries are very considerable, although all that is apparently paid by the farmers (Izaradars) as rent, is very trifling, and is kept so on purpose; but I suspect, that considerable presents are made on the granting of each lease, and in general these are annually renewed.

The number of fishers who follow no other profession may be near 4000 families; and of those who are also bearers and use traps only, there may be almost 9000 families. These not only retail and catch fish, but also hold the plough, and carry the palanquin, which will considerably reduce the number actually employed in the profession of catching fish. Even among the first 4000, many of the men are employed in retailing the fish, and are called Paikars. None of these have a capital of above 100 Rs., and many are so poor that they purchase the fish on trust; and, after having sold their fish in the market, go next morning to the actual fisherman, pay him for what fish they received, and take a fresh load on credit. A great proportion of the fish is retailed by the women of fishermen.

Of all the fishers in the district those of Goyalpara are by far the most easy in their circumstances; but this seems in a great measure to be owing to the seducing arts of their wives, by whom the unwary traders of the south are stript of their property. In general the fishermen of this district are very poor, especially towards the west. Near the Broomputro they may live like the poorest in Dinajpoor. In other parts a fisher lives no better than those who cultivate for a share of the crop, which seems to be owing to their having multiplied too much; for with a smaller population there are almost double the number here that are to be found in Dinajpoor. There is nothing like a great fishery of any one kind of fish, and a prodigious variety is taken, as will appear from the list, which I have reason to think is far from being complete.

The Sisor of Vihar is a very ugly fish, which is said to grow to seven or eight feet in length, and which few people will eat. The most remarkable thing about it is the tail, the upper ray of which is longer than the whole head and body. It is quite flexible and tapers to a fine point. I have been able to learn nothing concerning the use of this strange appendage.

Of all the horrid animals of this tribe the Chaka of this district is the most disagreeable to behold. It has the habit of the fishes called by Lacepede Uranoscope and Cotte, that is it conceals itself among the mud, from which by its lurid appearance, and a number of loose filamentous substances on its skin, it is scarcely distinguishable, and with an immense open mouth it is ready to seize any small prey that is passing along. In order that it may see what is approaching, the eyes are placed on the crown of the head. In its artificial characters it comes nearer the Plotose of Lacepede than any other tribe, but from such a different habit it must be considered as belonging to a genus not yet arranged by naturalists. All persons turn away from it with loathing.*

Insects are not uncommonly troublesome. Bees abound. In a few estates, that belonged to the Dinajpoor family, Mr. Fernandes, of that place, has rented the wax from the Zemindars, and in Patilado some people pay a rent to the landlord. In the other parts of the district the wax and honey do not seem to be considered as property. Everywhere, except in the two eastern divisions, and Patilado, I was told, that 2 or 3 men from Ronggo-poor came into each division, with an order from the collector to gather the wax on account of the surgeon, who it seems was also a candle maker. The surgeon received the wax, and the people who gathered it took the honey for their trouble. This account I suspect is not well

* Dr. Buchanan gives a voluminous account of the fish of this district.

APPENDIX III—contd.

founded; as the last surgeon, at least, made no candles, and I am assured, that some of the collectors issued no such order. The surgeon who made the candles, probably employed the people to collect the wax, and paid them for what they brought; and they pacified the agents of the Zemindars by giving them the honey. In the two eastern divisions every person takes the honey that finds it; but no person makes a profession of collecting wax, of which there is a great deal in the woods. The quantity procured is probably about the same as in Dinajpore; but more would undoubtedly be procured were there regular renters. There are three seasons (bounds) for collecting it; 1st. when the mustard has flowered in the beginning of the cold season; 2nd, when the Nageswor (*Mesua*) has flowered in the end of spring; and 3rd, in the middle of July, after the *convolvuli* have flowered.

In this district the quantity of shells collected for burning into lime is very great, owing partly to the consumption in the manufacture of indigo, and partly to the great quantity chewed with betel. No less than 477 families, were reported to me, in the different divisions, as employing a part of their time in collecting and preparing these shells. The best lime is prepared from two species of muscle (*Mytilus*), which greatly resemble the *Anatinus*, common in the rivers of Europe, but they are much smaller, being little more than two inches long and one broad. The projection of the shell near the hinge appear in the same manner as if they had been rubbed against some hard body. The one kind is much convexer than the other; both are called by the same name, Jhinuk. The next lime is prepared from a snail (*Helix*) almost round, and about two inches in diameter. It may probably be the *ampullacea*, and by the natives is called Samuk. The worst lime is prepared from a smaller conical snail, about an inch long, which has a very round aperture. It is called Morataknya or Gugli, and is never used in lime that is prepared for chewing, that indeed in common is entirely prepared from the muscles.

VI VEGETABLE KINGDOM

The hills and forests of this district produce an exceedingly great variety of fine plants, of which a very large proportion has not been introduced into the modern systems of botany; and, during my residence, I added very much to my collection of descriptions, drawings, and specimens; but, as the greater part can only interest the botanist, I shall here content myself with giving an account of the most general produce of waste lands especially the forests, and of such smaller plants as the natives apply to use. The wastes of this country contain a greater variety than those of Dinajpore, and occupy a much greater proportion of the country.

1st. Of the 900 miles stated to be waste, as occupied by rivers, marshes, old water courses, tanks, ponds, and other receptacles of water, a great part abounds in vegetable productions. The great rivers, and the channels which these occupy in the rainy season, may amount to 300 miles, and in this there is very little vegetation. The floods sweep away every thing, and whenever the rivers fall, the sand of the channels become so dry, that nothing will grow. The remaining 600 miles, occupied chiefly by old courses of rivers which contain water throughout the year, marshes and lakes, or rivers that are quite stagnant, except after very heavy rains, contain almost

as much vegetation as the land; and are often entirely hid by it, as I have mentioned in my account of the topography. Even the smaller rivers, that contain a gentle stream, abound with aquatic plants, such as the *Talisneria spiralis*, *Serpicula verticillata*, and several species of *potamogeton* and chara. By far the most curious of these plants, however, strongly resembles the *Nymphaea*, but is all over covered with prickles. The leaves are often five and six feet in diameter, and are so brittle, that they can seldom be lifted from the water without breaking. The flower of this singular plant never rises above water, nor does it expand. The leaves are always drawn closely together, so as to exclude the water from destroying the pollen.

Of the poor sterile land, broken corners, roads, burial grounds, and the like, which occupy about 332 miles, some part is good, and is unavoidably occupied by roads, market places, and burial grounds, and also by angles of fields which it would be inconvenient to cultivate with the plough. Whenever not too much trodden by men or cattle, this land produces the best pasture that is found in the country; and the smallness of the extent, that is destroyed by the treading of such multitudes, is really astonishing. I am persuaded, that of horses and wheel carriages, there is a greater extent rendered useless in this manner. Even the market-places in general are entirely covered with fine trees.

Neither is the sterile land without vegetation. Part of it is high, and in the rainy season produces pasture, which in this country is reckoned good; but its most common grass is the species of *Andropogon*, called Chorkangta, Ukuni, Ghengto, and Sorola, by the natives of Bengal, and *Gramen aciculatum* by Rumphius, in whose work there is a good figure, and an account admirably describing its worthless nature. This sterile land is not without a few trees; but these are mostly stunted, and so thinly scattered, that they give no harbour to destructive animals. In the low parts of this sterile land, which are sandy banks near rivers, the most usual vegetable production is a species of Tamarisk, which has not yet been introduced into the systems of botany. It grows to six or eight feet in height, and is almost the first plant that takes root on the lands, formed by deposition from the rivers which by its creeping roots it tends to consolidate. It is used for fuel, and by the natives is called Jhan; but this name is generic, and is applied not only to another species of Tamarisk, but to the *Casuarina* of Bengal, and to the cone-bearing plants that have been introduced by Europeans.

The waste inundated land also, that has a good soil, in a few parts produces the above-mentioned Tamarisk; but to a very trifling extent. By far the greater part of the 884 miles that I have mentioned, is covered by a very coarse grass or reeds. In some parts, especially such as are inclined to be marshy, the reeds give way to a fine species of wild rose-tree, not yet introduced into the systems of botany, and by the natives called Guja. In Dinajpore, and farther west, this bush almost creeps on the ground; but in these eastern regions, where it seems to be in its favourite abode, it often rises to be 10 or 12 feet high, and forms large thickets. Some trees also thrive in these inundated lands, although they are always thinly scattered, except the Hijol. It is, however, remarkable, that this tree, although it forms a kind of forest in the inundated lands of Patilado, is very much stunted in its growth, while many other of the trees, which are only thinly scattered on the inundated lands, acquire there a very considerable size.

APPENDIX III—concl'd.

On the 1175 miles of waste land not inundated, and of a good soil almost a half is covered with reeds and a coarse grass, having occasionally a few scattered trees and bushes. The remainder is covered with forests; but in these also the reeds grow to an amazing height. The forests seem to be diminishing faster than the progress of cultivation, by the pains that are taken in burning these reeds during the heats of spring. This operation kills many young trees, and checks the growth of all; but it is of vast use in improving the air of the country, by destroying much vegetable matter, that would rot with the first rains, and by keeping the roads somewhat accessible. It would be of still more use, were it able altogether to destroy the thickets of reeds, by which the country is overwhelmed. Some trees, especially the Sal and Amla resist the fire much better than any others.

Of the hills, by far the greatest part is covered with forest and even the lower of these are overgrown by reeds, but the steeper ones are rendered, if possible, still more impenetrable by numerous large twining plants, which Rumphius has described under the gene-

ral name of wood-cables (*funes sylvestres*), which is well fitted to describe their nature, for the term *Clematis* used in Europe is only fitted for the puny productions of a hedge. The natives of this country make little use of these natural cables, which answer so many purposes in the Indian islands (*India aquosa* of Rumphius)

As I have stated in Dinajpoor, it appears to me to be here also desirable, that the whole of these woods and reeds should be altogether destroyed. The injury which they do by protecting destructive animals, far outbalances the trifling to use timber for any purpose except for canoes, boats, and for a very little coarse furniture, such as stools, boxes, and bedsteads, none of which are polished; and whose wants, should they ever require timber, might be abundantly supplied by trees reared about their villages. The forests, however, here are of some more value than in Dinajpoor. [The further details given of this district are in a great measure similar to the descriptions in the previous volumes and districts; the repetition would therefore be supererogatory. ED.]

APPENDIX IV

Extracts from D.H.E. Sunder's Settlement Report of 1895 on the Social Life and Religions of the People of Jalpaiguri District

A. SOCIAL LIFE AND RELIGION OF CERTAIN TRIBES

In the following paragraphs I give an account of the habits and customs of the principal castes of people you may see in the Duars, namely, Rajbansi or Koch, Muhammadan, Dobasiya, Mech, Garo, Bhutia, and Toto.* The customs, religion, deities, &c., of one class differs from that of another; their system of agriculture is also different; hence I have written about each class separately. Among the cultivating class the Rajbansis, Dobasias, and Muhammadans preponderate, while Meches and Garos come next. The Bhutias and Totos are labourers; but some of them grow radish, turnips, and other vegetables, which they sell during the cold weather months.

RAJBANSIS AND MUHAMMADANS

Rajbansis—The Rajbansis or Kochs predominate in the Duars. The last census returns show their number as 123,439. They are now recognised as a distinct caste of Hindus; but generally the Rajbansi of the Duars is a Hindu when it suits him to be one, and a Mech when he obtains pork and wishes to eat it. Hunter says:—"The Koch race first came prominently into notice about the close of the fifteenth or the beginning of the sixteenth century, when Hajo established the Koch kingdom upon the downfall of the more ancient kingdom of Kamrup. Brahmanism was introduced among the people in the time of Visu, Hajo's grandson, who, together with his officers and all the people of condition, embraced the new religion. The name of Koch was abandoned by the converts, who assumed that of Rajbansi, literally "of the royal kindred". A more detailed description of the Kochs will be found in the Statistical Account of Kuch Bihar.

Muhammadans—Next to the Rajbansis come the Muhammadans, of whom there are 53,562 in the Duars according to the last census. They originally belonged to the adjoining state of Kuch Bihar, as also to Purnea, Rangpur, Dinajpur, and the regulation portion of Jalpaiguri district which is to the west of the Tista river, whence they were attracted to the Duars by the richness of the soil, the easy terms on which land may be obtained, the facility with which crops can be grown and sold, and the good profits which are obtained by their sale.

In regard to social customs, dress, and food (except the eating of pork), the Muhammadans resemble the Rajbansis. The following paragraphs give an account of them.

Homestead—Among Rajbansis as well as Muhammadans there are four huts in every homestead. These face north, south, east, and west. Sometimes an extra hut called "dari-ghar" is also built and is used by friends who may be staying for a night or so. In building a homestead care is taken to have it bounded as follows whenever possible:

North	.	.	.	.	.	Betelnut trees.
South	.	.	.	.	.	Compound.
East	.	.	.	.	.	Water.
West	.	.	.	.	.	Bamboos.

The huts are built on mud plinths about two feet from the ground. The walls of the huts are made of bamboo-matting or grass reeds covered over with earth mixed with cattle droppings. The roofs are thatched with grass.

*The section on Toto has been revised by me and published separately in this volume—A.M.

Most of the homesteads in pargana South Mynaguri have good arecanut groves with the piper betel plant growing over them.

Domestic life—Among Rajbansis and Muhammadans the chief occupation of the women is the husking of paddy, preparing the husband's food, fetching water (which they carry in a ghurah over the left side), looking after the children, &c. At time of transplanting of paddy or reaping it, they work in the field and are a great help to the husbands, and for this reason some men keep more than one wife. They assist the man in cutting jute, reaping and drying tobacco, and manuring fields. They mend his clothes and also wash them. Women are in great subjection to their husbands; but notwithstanding the drudgery they have to go through day after day, they generally make good wives. A woman does not eat with her husband. When she goes out with him, she always walks behind him. If there be anything for either of them to carry, it is usually borne by the husband.

Among Muhammadans a father makes choice of a name for his son and confers it with little ceremony; a daughter is generally named by her mother. In the treatment of their children, Rajbansi and Muhammadan women are remarkable for their excessive indulgence. Among both castes the mother weans the child after eighteen months or two years. When the mother goes to the market the babe is generally tied over her back or on her side. At the age of six or seven years a Muhammadan boy is circumcised. This is called sonait, and is performed by the Ostath with little ceremony. The Ostath is paid from four annas to one rupee as a fee.

The parents among Rajbansis and Muhammadans give little attention to the education of their children. Many of them refuse to allow children to attend school, because education will make them ask for better clothes, also socks and shoes instead of attending to ploughing and agriculture. Girls receive no education.

Food—On rising in the morning, Rajbansis go out without eating anything. After this they proceed to the field and plough up to about midday, when they return home. This is called "dopar-somai", and they eat the first warm meal consisting of about half-a-seer of rice together with vegetable curry. Those who may be very hungry eat some chura while the meal is cooking. Between noon and nightfall the men as well as the women proceed to markets either for the sake of amusement or for the purpose of buying and selling. Some of them may also be seen in the busy months weeding their fields, reaping crops, fetching fuel, or attending to other agricultural matters. Many of them, men and children and even women, also spend their time, especially in the afternoon, fishing with rod and line on the sides of roads or in ponds, or catching fish in traps and nets in running streams, jheels, and marshy places. In the evening, towards nightfall, they eat another warm meal consisting of about half-a-seer of rice together with any fish that may have been caught or purchased from the market, or some vegetable curry. Children have their meals whenever hungry. Women eat with the children and always after the men. Poor people who cannot afford salt, cook vegetable curry with cheka, the making of which is described in paragraph 361* of this report. Chura is not made by Muhammadan women. Muhammadans generally eat panta-bhat (stale rice) in the morning before going to the fields for ploughing.

*See the section on food of Garos below—A.M.

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Firewood—Fuel for cooking food is obtained from old trees, jute sticks, jungle twigs and bamboos. People who are unable to get these things burn straw. Cattle droppings are never used for cooking food. Ghosi (cattle droppings) is used between the months of Kartik to Falgun, when the weather is very cold, for warming people. Ghosi is mixed with tusi (husk of paddy) and is placed in a por (hole) which is made in the angina (courtyard). The mixture is lit towards evening, and the people sit round it and relate the events of the day or the scandal of the taluk while warming themselves. The fire continues almost throughout the night, and frequently sparks therefrom get to the roofs of houses and destroy large homesteads in a few minutes. Fires are lit with matches.

Clothing—Rajbansi and Muhammadan women wear a sari or wrapper called phota-kapor round them, from over their breasts up to their ankles. It

is made in the district, and costs from Re. 1 to Rs. 3.

Men wear a jacket called piran, which costs 10 annas; also a chudder round their necks and a dhoti round their loins. These cost from 12 annas to Re. 1 each. Men also carry a small round bag in which they keep betelnut, lime, &c. It is called botua. Some of them also carry a jeb or naminja, which is a larger bag made of locally manufactured cloth. Papers, money, and other articles are conveyed in it. Money is also carried in a jali and in a ganjia, which are narrow, long bags worn round the waist over the dhoti.

Among children girls are allowed to run naked until the third year; boys until the fifth year. Girls wear a sari from waist to ankles up to the fifth or sixth year. Among Muhammadans this is called the hetpatani. After the sixth year the sari is worn from over the breasts to the ankles. This is called the aguribar-kapor.

Ornaments—The following is a list of ornaments worn by Rajbansi women

No. 1	Where worn 2	Vernacular name 3	Description 4	Price 5
1	Ear	Anti	Silver ear-ring	1 0 0
2	"	Machipath	Gold ear-ring, with pendants	10 0 0
3	"	Ditto	Silver ear-ring, with pendants	1 0 0
4	"	Gupi	Earpin	1 0 0
5	Nose	Nath	Gold ring	10 0 0
6	"	Phul	Gold hook	2 0 0
7	"	Do	Silver do.	0 8 0
8	"	Phur-phuri	Gold ring, with pendants	2 0 0
9	Neck	Chandrohar	Silver necklace	10 0 0
10	"	Sakhar	Necklet of silver beads	5 0 0
11	"	Mala	Necklace of four-anna pieces	10 0 0
12	"	Kuchia-mor-har	Silver necklace	5 0 0
13	"	Hasila	A thick silver necklet	20 0 0
14	"	Pool-mala	Coral necklace	1 8 0
15	"	Kati-kala-mala	Glass bead necklace	1 0 0
16	Feet	Teng kharu	Silver anklets	8 0 0
17	Wrists	Gota kharu and Gokul kharu	Do. wristlet	5 0 0
18	"	Muta kharu	Ditto	6 0 0
19	"	Saka Do	Shell wristlet	3 0 0
20	Finger	Angti	Silver ring	1 0 0

The Saka kharu is worn on the left wrist; the silver kharu on the right wrist. A widow cannot wear the former. She has to break it on the death of her husband. A woman may wear a ring on first or fourth finger of either hand.

The following is a list of ornaments worn by Muhammadan women :

No. 1	Where worn 2	Vernacular name 3	Description 4	Price 5
1	Head	Sitapate	A gold chain worn over the head (by women of well-to-do jotedars)	160 0 0
2	"	Do.	A chain of silver	15 0 0
3	Nose	Nath	Ring with gold pendants	10 0 0
4	Nose (between the nostrils).	Bali or golap	Gold ring with pendant	10 0 0
5	Ear	Machia	Gold ring	10 0 0
6	"	Jhumka	Ditto	10 0 0
7	"	Anti	Ditto	5 0 0
8	Neck	Hasli	Silver necklet	15 0 0
9	"	Chandrohar	Ditto	10 0 0
10	"	Got or Kuchi-morhar	Necklace of 3 strings of silver beads	15 0 0
11	"	Taka-chara	Necklace of sicca rupees	25 0 0
12	"	Katimala	Ditto of silver beads	6 0 0
13	"	Chik	Silver necklet with chains	6 0 0
14	"	Baol-kati	Silver necklet with chains	5 0 0
15	Arms	Kata-baju	Silver band	8 0 0
16	Wrists	Chur	Do. bracelet	16 0 0
17	Feet	Bank	Do. anklet	8 0 0
18	"	Pao-kharu	Do. do.	10 0 0
19	Finger	Angti	Do. ring	1 0 0

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Household furniture—The furniture in a Rajbansis' and a Muhammadan's homestead is as follows:

Name of Article 1	How used 2
Doon .	Basket for measuring rice, oilseed, etc. It holds about 15 seers.
Khuchi .	Small basket for measuring rice. It holds about 15 seers.
Katta .	Bamboo or cane basket. Is used chiefly in pargana Ambari Falakata. It holds from 1 to 2 seers according to size.
Dhaki .	Bamboo basket for keeping or storing paddy in.
Dhama .	Bamboo basket for giving cattle oil-cake and water in.
Dhera .	Spindle for spinning jute string.
Channi .	Bamboo sieve for cleaning rice
Saji .	Is made of wood. Used for keeping pan, lime, betelnut, etc.
Dala .	Made of cane. Used in Ambari Falakata for keeping betelnut, pan, etc.
Kula .	A bamboo tray for cleaning rice.
Chela .	Ditto Ditto.
Sam .	Made of the trunk of a tree. Is the mortar in which paddy is husked.
Gain .	A solid, wooden pole, which is lifted and lowered into the sam by women in the process of husking paddy.
Sama .	An iron ring, which is fixed to the lower end of the gam to prevent the wood from cracking.
Chata .	For turning up chura (parched rice) while it is being pounded. It is made from bamboo.
Chello .	Broom for stirring paddy at time of frying.
Jharu .	Do. for cleaning house.
Nethani .	Bundle of jute for wiping house floor.
Tokra or toka	The shell of a gourd in which water is stored.
Kulsi .	Earthen vessel for storing water in.
Chowki .	Wooden platform for sleeping on.
Shop .	Grass-matting for sleeping on.
Takur .	Spindle for making twine.
Dhara .	Bamboo-matting for sleeping on.
Sarasi .	Pincers for holding fire.
Kerki .	Grate for scraping betelnut.
Jatha .	Knife for cutting betelnut.
Chorka .	Spindle for making thread.
Sorta .	Knife for cutting betelnut.
Hamo-dista	Iron pestle and mortar.
Boti dao .	Knife for cutting fish.
Deli .	Basket for storing paddy.
Kerka .	Instrument for cleaning cotton.
Khachari or changari	Basket for throwing manure in fields.

Marriage customs—Marriage among the Ranbangsis is performed in the following manner.

The ghatak or ghatki is sent to the father of the girl for the purpose of ascertaining whether he is willing to give his daughter in marriage. The father replies in the affirmative and says:—"Let us see the Sub Lskhan". A day or two after this the ghatak goes to him again to enquire the result. If no misfortune has occurred in the house of the girl or of the young man, the ghatak proceeds with the marriage arrangements. Three or four days pass, after which the ghatak returns to the parents of the girl and brings some betel-leaf and gna or areca-nut with him. The ghatak is accompanied by the father or brother of the young man. At this meeting the ghatak asks the girl's father how much he wants for the girl and also what other articles he desires. The price of the girl is fixed at from Rs. 40 to Rs. 120, according to her appearance and ability to work. The girl's father also demands pan leaf, dahi, areca-nut, sweetmeats, chura, and earthen pots. After this the dara-gua day is fixed. On this day the articles that have been asked for and also the price of the girl are taken to her parents by the boy's father and his friends, as also the ghatak. Two married women accompany them. They are called bairatis. The people sit together in the kholan or court-yard of the girl's house, and pan and betelnut that are brought are distributed among them. Then the girl's father turns to his friends and says: "I intend to give my daughter in marriage with so-and-so, give me your good wishes." The friends comply and say that they are glad to hear the news. The girl's father then brings a kava thali (metal plate) in which he puts about half-a-seer of rice. Five chirags (earthen lamps) are lit and kept over the rice. Then the price of the girl is paid and is put on the thali by the father of the young man together with some silver ornament. This is called the "nikmi chora", and precludes the girl's father from giving her to any other person.

The day of the wedding is then fixed, and is generally about five or ten days after the dara-gua ceremony. After this the parents on both sides make the necessary arrangements.

On the day preceding the wedding the odibas ceremony is performed, and is this:—The napit (village hair-cutter) comes in the evening and shaves the young man's head (mata kamai ceremony), and also pares his nails. A napit who goes to the girl's house pares her nails. Then the two bairatis who went to the girl's house make the young man sit on a wooden board (pira) and they rub his body with turmeric, methi, sondapora (a sweet smelling powder), and mustard oil, all of which are mixed together. One of them then pours water over him. After this bath the young man wears clean clothes. The same operation is performed on the girl by two bairatis who are there.

The wedding—On the following day the friends of the young man are invited to his house and feasted. After this, the ghatak, two bairatis, and the boy's friends and brother or uncle go with musicians and a palky to the girl's house. Here they are fed by the girl's parents, who then give up their daughter. She is taken in the palky to the bridegroom's house. There she is kept in the palky until the ceremony is to be performed.

After this the young man's father causes one of his friends to plant five plantain trees in his angina (court-yard) in the following position:—

o o
 o
o o

A little paddy is placed at the base of each tree, and five earthen vessels, filled with water, are put over

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the paddy: one vessel is at each tree. A mango leaf is kept in the water. Outside the plantain square and to the west of it, but facing eastwards, a satranji or carpet is placed. The young man stands on this carpet while the young woman is taken round him seven times. While this proceeds, the gotimara is done, that is to say, the boy throws flowers made of sola together with aloa rice at the girl with his right-hand, and the girl does the same at him with her left hand. This is also called the ful mara. After this the couple sit together side by side on the carpet. Then a schera or sola crown is placed over the forehead of each of them, and a piece of new white cloth is put over the head of both. A brass lota, full of water, is kept in front of the couple and is covered with a new white cloth. Then the young man places his right-hand, palm upwards, over the lota, and the girl's left hand is put over his hand. After this the young man's father takes one of the mango leaves from one of the five earthen pots and dips it in the water of all the pots, one after the other. He then sprinkles some of the water first on the head of his son and then on the head of the girl. After this he puts Rs. 2 or Rs. 5, or whatever it may be, into the girl's hand as a present, and he also takes some dubh grass and paddy from a metal plate (thal) and throws them over the heads of the couple as his blessing (ashubadh). Should the young man have no father, a person who is present, and is called the pani-chita-hap, performs the ceremony. An uncle may also perform it.

After this the young man's mistor or best man comes from the east side and stands in front of the plantain tree, which is in the centre of the square. He takes into both his hands the earthen vessel with water and mango leaf which is there. Then the young man asks him "bhober mistor ki dharia ashilen," i.e., my best friend, what have you brought?

The mistor replies as follows: "Hearing of your marriage I have brought the best water from the Ganges".

This being done the mistor puts the earthen vessel back in its place and then moves out of the square of plantain trees and goes up to the bride, into whose hand he places Rs. 2. After this all the friends present, one after the other, make offerings in money from 2 annas upwards, which are placed in the girl's hand, and they also throw some dubh grass and paddy over the heads of the couple as a blessing.

The binding part of the ceremony—The Brahman or priest then performs the shradh ceremony, and after this he ties the fourth finger of right and left hand, respectively, of the couple with kasia grass. After this the girl's father or elder brother breaks the grass, which act signifies that from that day the girl belongs to the young man and they relinquish all claim to her.

Consummation of the marriage—The couple then go to the tulsi tacur, which is in the angina or courtyard and salute it, and they afterwards salute the members of their families who may be present. Then they enter the north hut together and remain there for the night as man and wife.

On the following day the young man's father makes the girl perform the "randon" or cooking ceremony. With the help of other women she prepares food for the guests, and a feast is given in the evening to all who are in the house.

After this the path-piran ceremony takes place. Accompanied by the bairatis, the girl goes in a palkey

and the boy on a pony to the house of the girl's parents where the marriage ceremony is repeated. On the following day the couple return home.

After the lapse of eight days, which is the hohey-moon period, the "ataori bhanga" ceremony is performed. The couple stand together on a wooden pira or platform, and are bathed by the bairatis. They then change their wedding clothes and wear new clothes. This completes the marriage ceremony.

Among Rajhansis puberty is said to begin in girls at the age of 12 or 13 years, and they are generally married at this time.

A Rajhansi may marry two women at the same time. One ceremony suffices for both; but such marriages are rare.

A Rajhansi may have from one to ten wives. I know one who has seven wives and another who had ten.

When a widow remarries, it is called gao-gach. No ceremony is performed. It is purely a matter of consent.

When a widow goes over to a man and lives with him as his wife it is called "Porkhetri".

Widows are sometimes in want of men for the purpose of looking after their lands and other affairs. They keep a dangua. He is a man who goes to a widow and lives with her as her husband. He takes a pot of oil and keeps it at the door of her house, and he strikes the roof of the house over the doorway three times and then enters. This is the only ceremony observed. The man is subject to the woman and can be turned out by her at any time. He is looked down on by the Rajhansis and is considered an outcast. Nobody eats with him. Everybody abhors him. It is believed that, if a cow dies and a dangua takes its carcase and throws it out of the cattle shed or any other place, even vultures will not eat it. Some also allege that, if a dangua ties rice in grass and offers it to an elephant, it will not be eaten by the animal. Notwithstanding this there are many danguas in the Duars, and they are happy and content with the women whom they have joined.

Sangna is a man whom a widow takes to live with her. **Sangni** is a widow whom a man takes to live with him.

Dhemni or **kolna-patro** is a woman who lives with a man as his mistress.

Bhanji is a barren woman. She is looked down on by the Rajhansis.

Ghar-jla—Is a suitable man or boy, generally one who has no parents, who comes to the girl's parents and lives with them. He works for the girl from one to seven years.

The expression *gabur* used towards a girl or man, or the expression "dari-moch" applied to a man, signifies majority. "Pat gabur" means just before this period.

Birth—In childbirth a Rajhansi woman is confined to her hut from seven to nine days, after which she is able to attend to her duties. During confinement only her women relations are allowed to approach her. No man can go near her. After the end of the days of confinement, which is determined by the time the child's cord dries and falls, the napit has to pare her nails and slightly shave the head of the child. He also shaves the heads of the other members of the family.

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The childbirth is called pashti. The cord is called nara.

Naming of the child—The child is named by the parents as soon as its head is shaved. Often the name is a bad one, hence the couplet—

"Thuge nasta kare gaon
An hap ma nasta kore chavar nao."
A thug ruins a village
And parents ruin the name of a child.

Frequently the name given to a child is after the day of a month or week:

Boys' names

Pohatu means .	Born in the morning
Ratia " . . .	" at night
Sanjua " . . .	" in the evening
Jonaku " . . .	" at moonlight
Afnasu " . . .	" at Anabasya (full moon)
Somaru " . . .	" on Monday
Monglu " . . .	" on Tuesday
Budharu " . . .	" on Wednesday
Bisaru " . . .	" on Thursday
Sukaru " . . .	" on Friday
Sania " . . .	" on Saturday
Debaru " . . .	" on Sunday
Bysagu " . . .	" in Bysack
Jatia " . . .	" in Jeyt
Asaru " . . .	" in Assar
Saona " . . .	" in Sravan
Bhadru " . . .	" in Bhadra
Asina " . . .	" in Assin
Katia " . . .	" in Kartic
Agna " . . .	" in Augran
Posu " . . .	" in Pous
Magua " . . .	" in Magh
Faguna " . . .	" in Falgoon
Choita " . . .	" in Choitro

Sori after a name indicates that the person is female. Jolesori or jhori means born at time of rain.

Dimisori means .	Born during the day
Pohati " . . .	" early in the morning

Religion—The following are the spirits or deities of the Rajbansis:

1. **Bisto tacur**—Also called Jal (water), is worshipped in the months of Bysack and Bhadro. He is believed to be good. Offerings of dahi, atab rice, mal bhog plantains, and chura are made to him. He is the god of rain, and is worshipped in order to provide good and sufficient water for man and beast, as also for the crops.

2. **Borma tacur**—Also called Agoon (fire), is worshipped in order that he may not destroy homesteads by fire. It is believed that, when he is satisfied, no fire can occur even if a person deliberately commits arson.

3. **Pobon tacur**—Is believed to be the god of air. It is said that, when he is displeased, storms and high winds come. He also causes hailstones to fall and injure the tobacco and mustard seed crops. He is wor-

shipped in order that such losses may be avoided, and that homesteads may be protected and saved from storms.

4. **Basumati tacur**—Is believed to have full control over the earth, and is said to look on the people as a mother regards her children. If she is satisfied, her hands bestow full and good crops and sufficient fodder for cattle. When she is displeased, famine and other troubles follow.

5. **Biso Hari tacurani**—If she is pleased the wealth of the cultivator increases, cattle multiply, and everything prospers. If she be displeased, children die or become blind, cattle and men are bitten by snakes, and many troubles come. The blind are sometimes called "Biso Hari Kana." A blind woman is called "Kani." Biso Hari is worshipped in Bhadro and Bysack months, and offerings of atab rice, plantains of all kinds, milk, dahi, sugarcane, cocoanut, etc., are made to her. People who can afford it also kill a black coloured he-goat to honour her.

6. **Chandi tacurani**—She is considered to be a very bad goddess. When cholera occurs, Chandi is the first to be worshipped and satisfied, because it is believed that she causes sickness of every kind. A buffalo calf or goat is killed to satisfy her.

7. **Kali tacurani**—This goddess is also feared by the people. It is believed that she is ever endeavouring to harm them and to cause sickness. Hence she is frequently worshipped, and offerings of buffalo, goat, etc., are made to her.

8. **Mahakal tacur**—He is called the "Addo debata" (the oldest deity), and is said to remain in the hills and jungles, and to govern the forests and everything that may be found there. If a tiger or bear or any wild animal be met with, the people call to Mahakal tacur to protect them. He is therefore regularly worshipped. If this is not done, he sends tigers and leopards to kill cattle.

9. **Gram tacur**—Is a deity who is supposed to be continually moving about the village. From five to seven small huts are erected on the east, some distance away from the homestead, for him and his wife. Some people give a single hut for the two. The Gram tacur is believed to cause sickness among children, and to be specially active during outbreaks of cholera. He is worshipped, and offerings of dahi, chura, etc., are made to him, and a lamp is also lit and kept in his hut whenever there may be sickness in the homestead.

10. **Sib tacur, also called Mohegor**—Is the god who protects the people from troubles provided offerings of dahi (curd), milk, atab rice, plantains, etc., are made to him. He is regularly worshipped.

11. **Lakhi tacurani**—Like Sib, this goddess is believed to be full of love for the people, and is said to provide them with everything good so long as she is worshipped and thought of.

12. **Dharam tacur**—He is the sun. A goat is marked with vermilion on its forehead and horns, and is then allowed to go away in the name of the tacur. Other people seize it and eat it. Duck's eggs, plantains, etc., are also offered to this deity.

These are the principal deities or spirits of the Rajbansis. I have mentioned only the more important ones in the order in which the people regard them.

Superstitions—Bamboos cannot be cut on Janma-bar (Sundays) and Guru-bar (Thursday), as it is supposed that the clump from which they are cut will flower and die. It is said that this has been often observed.

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The following trees are not allowed to remain on the side of a homestead mentioned against them, as, if so situated, they are considered to be the cause of sickness and misfortune.

Daoa	East
Jigini (<i>Rubia munjistia</i>)	North
Tetul (<i>Tamarindus indica</i>)	North and East
Tal (<i>Borassus flabelli formis</i>)	West

If a tal tree be on the east of a homestead and a tamarind tree on the south, they are considered to be good.

A garden of betel-nut trees should always be either on the north or west of a homestead.

A black cat or a black cow in a homestead is considered fortunate. A yellow cat is an omen of misfortune.

Before building a homestead on any new site, four bamboo posts are placed in four corners of the new ground and a jute string is tied from post to post. If the string remains unbroken during one night, the site is believed to be good. If it be broken only in one or two places, still the place may be built upon. If all four strings be found broken, the site is unfortunate and cannot be built upon.

Another mode of ascertaining whether the site for a homestead be good or bad is this: Four plantain trees are planted on the land that it is desired to build upon. A small hole is made in the centre of the land and a chirag (earthen lamp) is lit. Some leaves of the tulsi plant, also five or six grams of aloa rice, are placed in the whole. A bamboo basket is placed over the hole. This is done in the evening. Next morning if everything be found as they were placed, the site is considered to be good. If the rice has disappeared during the night, it is considered to be an indication that people who may dwell there will not get sufficient food.

In Mynaguri tahsil it is considered unfortunate to sow paddy on a Monday, and to give a daughter in marriage on a Wednesday; but all do not believe in this superstition. In Alipur tahsil paddy may be sown every day except Wednesday, which is considered to be the day on which the plant germinates. On this day paddy is not lent or given to anybody, nor is the gol or store-house entered. Friday is called "Kana-Sukur" or blind Friday.

FESTIVALS AND FASTS

Goochor pona—Prior to transplanting of cold weather paddy (haimanti), a young plantain tree, a kewa (*costus speciosus*) flower, a stalk of jute, a stalk of munj grass, and a black kuchoo are planted in a corner of the paddy field. Some sindoor (vermilion) and kajal (antimony) are then put on the plantain tree and on the ground together with some dhup (incense). After this, some milk is poured at the base of the tree. Some atab rice and sugar are kept in a dhona (bark of plantain tree) at the base of the tree. This is called the roibod. The kajal is prepared by oiling with mustard oil the stalk of the plantain leaf and holding it over a light. The soot which forms on the plantain stalk is kajal. Five dabs of kajal and five or sindoor are made on the ground and five at the base of the plantain tree. The numbers five and seven are believed in and are considered to be fortunate, hence the five dabs. The saying is "sath, panch, kusal bath", which means "seven and five are pleasant words". After this ceremony, which is performed to satisfy the goddess Lakhi, planting operations begin.

Lakhi puja—Held on the 1st day of Kartik. Prior to reaping haimanti paddy, each proja (adhiar) plucks a stalk of paddy from his fields and brings it to the kholan or courtyard of the jotedar's house, where it is deposited. The projas build a high bamboo machan (platform) and plant the paddy stalks in the ground below it. The machan is called dhapri. The ground is then laved. After this each proja brings a bunch of ripe plantains and places it on the upper part of a plantain leaf (neoj path) near the paddy. Each proja also brings a small handful of atab paddy called aloa and keeps it on the plantain leaf below the plantains. A duck is then killed, its throat being cut in front of bunch of plantains. The duck's head is kept there on the plantain leaf. After this some sindoor (vermilion) is put on the plantains, paddy and duck's head and dhuma (incense) is burnt. The people then "bhakti kore" i.e., salute the goddess Lakhi by bending their heads before the offerings. This happens at about midday. After this the jotedar distributes rice, dal, chillies, salt, oil, and onions to his projas, and they cook this together with the duck that was killed. A feast sufficient for all is prepared.

In the afternoon the jotedar takes some jamuri path (lemon leaves), some akkha (burnt earth), and some khoila (oil-cake). The lemon leaves are fried. The whole is then mixed up and powdered in a sam (wooden mortar). This powder, called dhul, is collected and placed on the plantain leaf with the other offerings. After this the jotedar directs the projas to prepare small gochas or bathis (lamps) with "kola dhaikan", i.e., plantain bark. Each man has to make as many bathis as equal the number of fields which make up his holding and the number of huts which comprise his homestead. They have also to make soltas (cloth wicks) about an inch long, and to steep them in ghi (clarified butter) made from cow's milk. The bathis and soltas are distributed in the evening by the jotedar. Each proja receives some wicks and bathis together with some of the dhul or powder of lemon on a plantain leaf. He then goes to his own fields and lights a lamp in a corner of each field or plot. While the lamp wick is burning the dhul is taken and thrown broadcast over the field, and the proja repeats the following verse in a loud voice at the same time:

Ag soor hath
Poka makor door jak
Subar dhan aol jhaol
Amar dhan suddo chaol.

"Run away pig, insects be far away; let every man's paddy be bad; let my paddy have only rice."

This has to be repeated in each field, after which the projas return home.

After this the projas and their children assemble at the house of the jotedar and eat the feast that has been prepared there. Women do not join in it. At the end of the day's proceedings the projas exclaim "Hari-dhoni Horibole" in a loud voice. The reason for this is as follows: When the feast is over, the jotedar asks the projas for their "ashubadh" (blessing or good wishes). One of the projas, the smartest and quickest of the lot who may be present, rises and relates the following story: "On the way to your house I met Lakhi taurani. I asked her where she had been. She replied that she had been to your house to a feast. Then she observed that, as I was coming here, I should mention that she had forgotten to tell you something although you had feasted her royally. She desired me to give you the following blessing:

Siso te his hak
Ram, Lakhan gala hak.

APPENDIX IV—contd.

"Let one bunch or stalk yield a his of paddy (15 seers), and let its thickness be equal to the thickness of the necks of Ram and Lakhan."

This story is followed by all the projas crying out in a loud voice "Hori-dhoni" and "Hari-hole."

After this each proja lifts his stalk of paddy from the jotedar's kholan or courtyard, and takes it back to his field whence he brought it, and plants it there. And this completes the Lakhi puja.

Nya khawa or Naban khawa—Is a ceremony performed when the haimanti paddy is first cut. Before any of the paddy is eaten the Rajbansis take a small quantity of the new rice together with some sugar, plantains, dahi, ghi, gur, and aloa rice and make a puja in the name of their deceased parents and relations. This is called the Tarpan. They also make a fire and throw some of the rice, &c., into it. This is called the "Barma-santi". In the case of wealthy jotedar's the Brahman or family priest is called, and he performs a shradh ceremony. The offerings are placed on a clean spot in the angina or courtyard. The person who makes the offering fasts (called basi-mukh), and performs the ceremony at midday or in the afternoon. He first mixes the new rice with the dahi, gur, aloa rice, &c. in a plantain leaf. Then he takes a lump therefrom in the name of his deceased father; after this a second lump is taken in the name of his deceased mother, and so on. These lumps are placed on the ground one over the other, and the name of the person for whom they are given is mentioned at the same time. This being done, a little water is poured over the whole of the mixed new rice, &c. He then makes "bhakti" (a salute) to each lump. On finishing this he gathers all the rice &c., and places it on a plantain leaf, and carries it to the nearest river. There it is put on the waters and allowed to float away. The Barma-santi ceremony is performed after this. Then a bath is taken, for the purpose of purification, and thereafter the Brahman is fed and other people of the house have their meal. In the case of poor people the practice is to put the new rice, dahi, &c., on the bark of a plantain tree and allow it to float away in the river.

Atab or aloa rice is the rice obtained from unboiled paddy. Usna rice is the rice obtained from boiled paddy.

Dhaner-phul-dowa—This ceremony is performed exclusively by Rajbansi women in the month of Augrahn. Some old haimanti rice and a bunch of manua plantains are placed on a bamboo kula (tray), or a kasa thal (metal plate). Five dabs are made with sindoor on the plantain. A kachi (sickle) is also put on the thal. A mer (cylindrical tube) is made with the bark of a plantain tree and placed on the kula, and a light called gocha is burnt within it. After the gocha is lit the mer is covered over with a piece of clear white cloth. This is done either early in the morning or in the afternoon. After this a woman, who has previously fasted, bathes and wears clean white clothing. She then places the tray or thal on her head, and accompanied by other women, proceeds to the field where the new haimanti paddy has first ripened. On the way to the place all the women cry out "oolloo, oolloo, oolloo". This is called "jogar-die". On reaching the field a thop or bunch of standing paddy is selected, the jungle and weed round it are removed and the ground is laved. After this, five dabs of sindoor (vermilion) are made on the ground. The thop of paddy is then enveloped in plantain leaf as it stands on the ground and a dab of vermilion is made on the leaf, while a cloth wick steeped in ghi is

lit and placed alongside it. The women salute the paddy by bowing themselves before it. After this, the woman who had brought the thal on her head seizes the thop of paddy with her right hand and cuts it with her left hand (this hand being considered among Rajbansis as the josiar or good hand). Then the thop or stalk of paddy is placed on the thal or tray, after which all the women return home headed by the woman who is carrying the tray. On the way back from the field, as on the way to it, the women exclaim "oolloo, oolloo, oolloo". On reaching home they go into the north hut, which is believed to be the josiar or fortunate hut. Here the stalk of paddy is tied over the Than-sri, a mud plinth where the deity (Than-sri or Biso Hari) is supposed to remain. On the completion of this ceremony the reaping of haimanti paddy takes place.

Bisua festival—Is held on 1st Bysack of each year, and is observed for the purpose of lessening sickness in the family and driving away the evil spirit. Paddy, chura (parched rice), chaoler-burbhura (crushed rice), chaoler bhajer jhaiya (powdered rice after being roasted), soresar bhaji (fried mustard), sukatar bhaji (dry jute leaves fried), garlic, onions, ginger, and turmeric are taken by the head male or female member of the family and are mixed together in a thali or plate. This is considered a medicine, and each member of the family is obliged to eat some of it. On the same day a few onions, ginger, and garlic and 21 leaves of the jack fruit tree (*Artocarpus integrifolius*) are threaded together and are tied over the door-post of each hut. Twenty leaves are for Bisua and one for the knot of the string on which the leaves are tied, which is considered to be the Sakki or witness. All this is done to satisfy the deity so that there may be no deaths in the family during the year. Chirags (small earthen lamps) containing mustard oil are also burnt at night. From the Bisua day a jhora has to be placed over the family tulsi tree (*Ocimum sanctum*). This consists of tying an earthen pot to a bamboo pole and allowing it to hang over the tree. A hole is made in the centre of the base of the pot, and is plugged with dubh grass. The pot is then filled with water which drips through the grass on the tree below. A chirag is kept burning every night, and water is put daily in the earthen pot throughout the month of Bysack, in order that the tulsi tree may flourish and the deity be satisfied.

Kolina-gat—This ceremony is performed in the month of Bhadro or Assin in memory of deceased parents, and is compulsory. Plantain, aloa rice, &c., are offered. The ceremony is similar to the Nya khawa.

Anna-prason ceremony or Bhat-choani—This ceremony is performed when the child first eats rice. The child's uncle on the mother's side puts the first rice in the child's mouth. The first rice is given in the seventh or eighth month. Friends are invited and feasted. Before leaving the house they make small gifts of money to the child.

Chura-karan ceremony—At this ceremony the whole of the hair with which the child was born is shaved by the napit. He also bores the ears of the child, be it boy or girl. After this, the child's body is rubbed with turmeric and oil, and it is bathed and covered with new cloth. Four plantain trees are planted in the courtyard, and the ground is lined, from tree to tree, with aloaguri or powder of aloa rice. Then a bed is made with cloth in the middle and the child is kept there. After this, the Brahman makes a puja to the poncha-debata (five deities).

. APPENDIX IV—contd.

In the months of Magh and Falgoon the osthī, the frontal bone of a deceased father, mother, elder brother, uncle, or other relative is taken and thrown into the Gaddadhur river at the time of the mela, which is held annually on the banks of that river. Some people go to Nyhati for this ceremony, others also go as far as Manihari ghat for the purpose of performing it. The couplet relating to this is :

Gunga te kore snan
Gya jee pindo dan
Khethri je koribe annodan.

"Bathe in the Ganges, do shradh in Gaya, and dispense charity at Juggernath".

Ekka dool—On the 11th of Kartik the people fast for 24 hours. Only the father and mother of a family fast, with the object of obtaining Boykunto (happiness) after death.

Jitua—A ceremony observed in the month of Assin by people who are engaged in law-suits or in whose house there may be sickness. A large number of green and ripe plantains are kept in a dala (plate or tray) and offered to the deity. The person who makes the offering promises that, if he be successful in the law courts or if the sick person recover, he will perform the jitua ceremony for a certain period to please Jit-bahah Tacur.

Bhutia titles—Prior to the annexation of the Duars there were tahsildars, peons, priests, and others who had special titles or names. These titles are still used by them and are therefore mentioned below:

1 Mahat	means	Head of a village
2 Katam	"	A judge
3 Kotwal	"	A peon
4 Bornua	"	One who is son-in-law of a Raja
5 Karji	"	One whose daughter is a Raja's wife
6 Mallick	"	A tahsildar who also had power to fine and imprison, and to try cases of all kinds
7 Gabur	"	Son of a Mallick
8 Kait	"	One who knows to read and write
9 Karkoon	"	A collector of revenue
10 Bosnia	"	One who gets people to squat on land
11 Tacuria	"	Village headman
12 Taroi	"	A peon who collects revenue
13 Kharadhora	"	One who holds the knife with which a goat's head is decapitated
14 Sotapagdar	"	One who holds the mace
15 Pakadhora	"	One who holds the punkah
16 Jhari-dhora	"	One who holds the vessel containing water
17 Chatar-dhora	"	One who holds the umbrella
18 Tacuria	"	One who collects revenue. The highest title given to a Mech. The village mon-dols used to collect revenue and make it over to the tacuria, who paid it to the Bhutias

19 Mondal	means	Village headman
20 Jamdaria	"	A jamadar above a peon
21 Pelan	"	One who is a good shikari
22 Deori	"	The priest of a temple

Muslo—Often of an evening you may see a Rajbansi or his field looking after his cattle, and also amusing himself by playing on some musical instrument. The instruments in use are :

1 Gutar	called	Dothra
2 Violin	"	Sarinja
3 Do	"	Bena
4 Flute	"	Basi
5 Tambourine	"	Dhulki or khunjori
6 Drum	"	Khol

Divisions of the day—The Rajbansis have the following expressions for explaining time :

1 Pahath	means	Daybreak
2 Behan or Rati-pohil		Morning
3 Moi-jurani		11 o'clock
4 Mure-dufar		Before noon, 11 to 12 A.M.
5 Dufar		Midday
6 Bela-Goreche		12 to 1 P.M.
7 Bhatibela		Afternoon
8 Sonja		Evening
9 Rath		Night

Weights and measures—The measure of grain current in the Duars is a measure of capacity and not of weight. Its basis is the doon, which is a bamboo basket. Its size is measured by gandis. One Gandi=width of four fingers. The doon for measuring paddy is generally $7\frac{1}{2}$ gandis from rim to base, and $5\frac{1}{2}$ gandis from one side of rim to the other, inside measurements.

The doon for measuring rice and mustard seed is 8 gandis from rim to base, and 6 gandis from one side of rim to the other, inside measurements.

The table of measures is as follows :

1 doon	= 15 seers (60 tolas to a seer)
20 doons	= 1 bis
16 bis	= 1 puti
4 bis	= 1 dam

Jute is sold in bundles or mutas as follows :

4 afals or mutas	= 1 Bandi
60 to 80 Bandis	= 1 Toongi (3 maunds of 60 tolas to each seer)

Salt, milk, oil, dal, sugar are sold by weight of 60 tolas to each seer. Rice and tobacco are sold at 80 tolas to each seer. Ghi and butter are sold at 96 tolas to each seer.

Tobacco is sold in peti or bonga (bundle); each peti weighs from 5 to 10 seers.

Diseases—The diseases which Rajbansis and Muhammadans suffer from are named below :

1 Cholera	called	Dhum, Olanta-Bhed-boomi
2 Small-pox	"	Basanta
3 Measles	"	Khesra
4 Dysentery	"	Bindisor
5 Consumption	"	Rajbiadi
6 Jaundice	"	Pandur
7 Cough	"	Kas, Kop
8 Fever	"	Jar
9 Giddiness	"	Chok

APPENDIX IV—contd.

- | | |
|--|------------|
| 10 Epistaxis (Bleeding of nose) called | Haris |
| 11 Rheumatism | " Bath-rok |
| 12 Colic | " Bis |
| 13 Asthma | " Snasi |

Funerals—Rajbansis in general burn the dead; they bury the dead only when cholera occurs and when the deceased has no friends or relatives. Children under three years who may die are buried. In Alipur tahsil when a woman with child dies, her body is taken to the bank of a river and her stomach is cut open by her husband. The body of the child is drawn out and is buried: after this, the stomach of the woman is sewn up with a thick needle and thread and is then burnt. If this is not done by the father, it is believed that he has sinned and he is badly thought of. In other parts of the Duars when a woman with child dies, the body is shraddh and a plantain tree is planted over the grave. A shraddh ceremony is performed thirty days after death occurs.

Muhammadans bury the dead.

- How property descends**—Among Rajbansis property descends from father to (1) son. (2) If there be more than one son, they get equal shares. (3) If there be one son and one daughter, the son inherits all. (4) If the father before decease gives the daughter a share of his property, she may keep what he give her. (5) If there be no sons, but only daughters, they inherit in equal shares; but the mother, if living, has a life interest, and so long as she is living, the daughters get nothing. (6) If the mother re-marries she loses all. (7) If there be no children the property goes to (a) the brother, and then (b) to the brother's sons.

If a man has a wife by marriage, but she has no children, and the man has a son by his second or other wife, the son inherits all property, but the first and second wives have a life interest therein, unless they re-marry, when they lose their claim. Among Muhammadans their law of inheritance relating to property prevails.

Fishing—The instruments used for catching fish

- 1 *Barung*, which is put against ayles whence water may be running
- 2 *Dhorka*, *deru*, *dheoli*, *darki*, *thurki*, and *jolanga*. These are placed wherever there is running water. Fish pass into them and are caught.
- 3 *Jhoka*, A cone-shaped basket or trap, which is used by hand. Fish that may fall into it are seized and pulled out from an opening on the top.
- 4 *Ttosa* and *kholoi* are baskets for keeping fish.
- 5 *Bhasani jal*, Is a large square net, which is tied to two pieces of bamboo crossways to keep it square. It is suspended to a bamboo pole, and is used only in the banks of large streams.
- 6 *Napi jal*, Is a net about 4 feet square. It is kept square by cross bamboos, and is tied to a short pole with the help of which it is used. Small fish are caught by it.
- 7 *Chak jal*, Is a circular net used for catching fish in deep water.

II

THE DOBASIAS

Their history—These people are found only in the western Duars. Their history, as related to me by the late Rai Opendro Nath Duardar, Bahadur, is as follows:

Formerly the Dobasias were Koch or Rajbansis. There was a ruler of Kuch Bihar who was known as Nadir Deo Sahab. He was very rich and powerful. He had a quarrel with the Bhutias and fought with them. In this fight the Bhutias made some of the Rajbansis prisoners and carried them to Bhutan to the Deb Raja. Men as well as women were seized and taken away. After this, Nadir Deo Sahab met the Bhutia General again and defeated him. In this fight the Bhutia General, who was known as Sona-pinda Bhutia, because he used to wear large gold earrings, was killed, and the Bhutias asked for mercy. Two men, named Chand Kait and Bhela Kait, who were Muhammadan headmen in the Duars, interceded for the Bhutias and persuaded Nadir Deo Sahab to stop further operations and to fix the boundary of Kuch Bihar at the place where the Bhutia leader had fallen. This was agreed to and a large, long malli (embankment)* was made to indicate the boundary between Kuch Bihar and Bhutia territory. After this, Chand Kait and Bhela Kait asked Nadir Deo Sahab to give the Bhutias a strip of land in Rangpur for the purpose of enabling them to trade. The area of the land was to be as much as a strip of cord made from the hide of a cow could surround. †Nadir Deo Sahab gave the Bhutias this land ‡as also a piece of land which we now call Bhot-hat on south of pargana South Mynaguri.

In the meantime the Rajbansis, who had been carried off to Bhutan, complained to the Dharam Raja and told him of their troubles as well as of their having lost caste. The Dharam Raja at once released them and allowed them to return to their homes in the plains. On coming back they found themselves out-casted by the Rajbansis, so they asked to be taken into caste again, but this was not permitted, and no Rajbansi would eat with them. They then went to the Duardar Sahab, but he only offered to give them work and to provide them with land for agricultural purposes. There were sixty two families in all. The Duardar made twelve families into agriculturists and appointed the male members of the other fifty families to be attendants on the Bhutias who might go to Rangpur for the purpose of trade. For doing this the Duardar gave them a block of land situate within the following boundaries as a jagir rent-free for ever.

North	Duari or Buxa hills
South	Bhelur-Dabri
East	Jiranpuker
West	Gudda-dhur river

The men accepted these terms. After this their names were engraved on a copper plate, which was

*This malli passes on the south of taluk Bara Chowki, pargana Bhatibari, and is still in existence.

†This resembles the action of Dido, the reputed founder of Carthage. She purchased in Africa as much land as might be enclosed with the hide of a bull; but she ordered the hide to be cut up into the thinnest possible strips, and with them she surrounded a spot on which she built Byrsa.

‡Probably the land which was given to the Bhutias is what we now know as Ambari Falakata.

APPENDIX IV—contd.

forwarded by the Duardar to the Suba or Governor of Buxa, who despatched it to the Dharam Raja. It is said that the Dharam Raja enquires after the men to this day.

Having been detained in Bhutan for a long time the men and women who had returned from there knew Bhutia and could converse in that language as well as in Bengali. Owing to this the Duardar and the three kotwals who were under him gave them the name Dobasiya, which means knowing two languages, and they are called by this name since then.

The Dobasiyas used to reside at Minagaon, about a mile below the foot of the Buxa hill a fact which is proved by the jack fruit and mango trees which exist there, as also at Santrabari, Janguri, Majirdabri, Dhalkar, and Bhelurdabri, all of which places lie near the road leading from Buxa to Alipur, so that the Bhutias were always able to find attendants and men for carrying baggage when they wanted them. On the acquisition of the Duars by the English, the Dobasiyas removed in a body to taluk Koyakhata, where they have taken up jotes and have settled permanently.

The Dobasiyas have now divided themselves into two clans or parties, one being the original Dobasiya, and the other being those who have been outcasted by party No. 1, because one of them married a Garo woman and another a Hariam or sweeper woman. The original Dobasiya does not eat with any member of party No. 2. No communication of any kind passed between them. Water is not drunk from their hands.

Marriage customs—The first step is for the bhataith or go-between to go to the parents of the girl and ascertain whether they will give their daughter to so and so, naming the person for whom she may be wanted. The parents reply that they must think over the matter and ask their parents, viz., the grandparents of the girl. The girl's parents then obtain the requisite consent. After the lapse of four days the bhataith returns for the answer. This is generally in the affirmative. On hearing this the bhataith returns to the house of the young man and communicates the reply to his parents. He also instructs them to make ready the present of gua (areca-nut) and pan (betel-leaf). Five pans or 400 areca-nut and 1,100 pan-leaves have to be given. This is procured from the market and is taken on the following day to the house of the parents of the girl and is given to them. Two men accompany the bhataith on this occasion and carry the gua and pan-leaf. After this, the girl's parents and the bhataith discuss the marriage and eat some of the gua and pan-leaf which is brought. The bhataith and the two men who are with him are also feasted with dahi (curd) and chura (pounded rice) by the girl's parents. After this feast the bhataith returns to his own house. On the following day he again goes to the girl's house and ascertains whether everything is well there. If, during the night, there has been any sickness, or a cow has died, or a dog has been carried off by a leopard, or any person or animal has died, it is considered a bad omen, and all arrangements for the marriage are stopped. The bhataith asks the girl's parents whether they are willing to proceed further or not. If they be willing he goes to the parents of the young man and informs them of what has occurred and of the willingness of the girl's parents to proceed. If they be agreeable, the bhataith asks them for Rs. 10, also one kaon (1,280) of areca-nut and 2,000 pan-leaves as a salami or present for the girl's parents. After this, accompanied by seven men and two women, the bhataith goes with the articles to the girl's parents. Friends are invited by them and are asked to sit down in the

angina or courtyard, where the areca-nut and pan-leaf which the bhataith has brought are distributed to them. On receiving this they ask what it means. The father of the girl then tells them that he has given her to so and so, mentioning the young man's name. After this, the value of the girl is discussed and her price is fixed by her father, his friends, and the bhataith. This is called the khalthi. The amount is generally from Rs. 60 to Rs. 80—occasionally it is Rs. 100. The girl's father also asks for four bhars (eight large earthen vessels) of dahi or curd, 5 doons or 75 seers of chura (pounded rice), two handies of sweetmeat, two piris (entire bunches) of plantains, and three thans (whole pieces) of white cloth. These articles are provided together with a white sari (cloth worn by women) called the goo-felani sari, which is given to the girl's mother.

The bhataith returns to the young man's father, who then proceeds to the Brahman or family priest and asks him to fix the marriage day. This individual mentions the best day, which is generally within seven days from the time of fixing of the khalthi. After this the boy's father goes to the Bhumali or Hari (the village musician), and arranges for the drummers and other musicians whose presence is indispensable. On the appointed day the young man's father and some friends go with the musicians and the presents of dahi, cloth, &c., to the girl's house. The boy and his mother remain at their own house. The Brahman is brought to the girl's house by her father, and he performs a shradh ceremony in the morning. Nine cups are made of plantain tree bark and are placed in line. Some dry rice is put into each cup; also nine pice, one pice being in each cup. The line of cups is kept in front of the Brahman. The bride's younger brother sits to the right of him. Then the Brahman makes a ring of kasia grass and places it on the fourth finger of this individual, who, after this, mixes some atab rice, dahi, plantain (of the kind known as mal-bhog), and chura on the bark of a plantain tree. Then the Brahman takes some stalks of kasia grass and lays them north and south on the ground in front of the nine plantain cups. The bride's brother then deposits some of the chura, rice, &c., which he has mixed on the grass, in front of the Brahman who repeats muntras (prayers) while this is being done. Twenty balls of the mixed rice, &c., have to be made and placed on the kasia grass, and during the whole of this time the Brahman repeats muntras. The Brahman's work being now completed, the girl is brought into the angina or courtyard and is made to stand on two pieces of plantain bark. Then the napit (barber) pares the nails of her hands and feet. After this, two women bathe her by pouring seven ghotis or lots of water over her, and they also rub her with turmeric, methi, and scented oil. She is then surrounded and hidden from view by a piece of cloth or a sheet, behind which she changes her wet clothes for dry ones. After this she is taken into the north hut of the homestead. It is considered the hut of good fortune. Then her father feasts the friends who are present. In the evening the young man's father brings a palky which, in the Alipur tahsil, is carried by Garos, and in this the girl is conveyed to his house. Here she and the young man are made to wear crowns made of sola (pith). The couple stand in the angina or courtyard with their hands folded, and their faces turned to the east. After this a man, who is called the pani-chita-bap, comes and asks the young man to hold out his hand. This being done, he puts some dahi in the young man's hands. The young man allows it to fall on the ground. The operation is repeated seven times with the same result. Then the pani-chita-ban moves away.

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After this two friends come forward and hold their hands together crossways and make a seat. The young man sits on their hands and is lifted off the ground. Similarly, two men hold their hands together and make a seat for the girl and lift her off the ground. They take her round the young man while he is seated on the arms of his friends who remain standing all the time. Small flowers of pith (sola) which had been previously made by the mali are now pelted at each other by the couple seven times, viz., each time a turn is made round the bridegroom. After this the couple are taken into the outer courtyard or khoolan, where they are made to stand side by side on a piece of matting over which a piece of new white cloth had been previously spread. The couple afterwards sit here together facing eastwards. The two women who had been to the bride's house now come and stand alongside the couple—one remains on the right of the bridegroom and the other on the left of the bride. A lota or ghoti of water is brought and placed in front of the couple, and a piece of new cloth is put over it. The bridegroom's right hand is then placed on the lota palm upwards, and the bride's right hand is kept over his hand. After this the Brahman takes some kasia grass and ties the third or middle fingers of the couple together. The girl's father breaks the grass and thereby makes her over to the bridegroom. This is considered to be the binding part of the ceremony. After this the bridegroom's mishor, viz. the best man, comes forward and puts a rupee in the bride's right hand. Then the pani-chita-bap puts a piece of white cloth, a rupee, and a kasa thal (metal plate) in the hands of the young couple. He also promises to give them ten doons of paddy and a cow, and in token of the promise puts two flowers into the girl's hand. Next, the girl's father presents a thal, a rupee and a lota, and her mother gives a rupee. After this the friends who may be present make their gifts which are always in money and range from 2 annas to Re. 1. This part of the ceremony being completed, a piece of clean white cloth is laid along the ground from the matting, where the couple seated, to the north hut. They walk over this and enter the north hut where they remain for the night as man and wife.

Next morning the couple come out of the hut and stand in the angina or courtyard on two wooden platforms, and they are bathed there by the two women who had been to the bride's house. The women pour water over the couple seven times, and then wipe their bodies and feet, and clothe them with clean dry white cloth. After this the bride combs the bridegroom's hair three times, and the bridegroom performs the same operation on the bride. The couple then salaam (salute) the relatives and friends who are present and re-enter the north hut. The marriage is then completed.

Divorce—The manner in which a Dobasiya divorces a wife is this: If a man suspects his wife of infidelity and wishes to divorce her, he calls the dewanias or village headmen, and in their presence he tells the woman: "I don't want you any more, You may go". The woman replies: "If you don't want me give me something in writing to that effect". The man then gives her a khenta-name (paper of relinquishment) and she gives him one in return. The two then leave each other. Another way of divorce is this: The woman and the man hold a pan-leaf with their right hands, and stand in presence of a mondol or headman and a number of other people of the taluk. The mondol or dewania then questions them as to whether they desire to leave each other. On their reply in the affirmative the dewania tears the pan-leaf in halves, and this act is a good and sufficient divorce.

Neither party has any claim on the other after the leaf is torn, and each may do as they please. Two people—a husband and wife—who were unable to live together without quarrelling came to me on one occasion in a market, and each complained against the other. On my suggesting that a divorce should be effected both parties immediately agreed, and the woman quickly brought a pan-leaf and held it out with her right hand to the man to hold it. He seized the leaf with his right hand, and I was requested by the people who had collected round the pair and also by the parties concerned themselves to tear the leaf in halves. As soon as I had accomplished this, the divorce was declared as being complete, and the woman went her way rejoicing. The man subsequently regretted the step, but could not do anything. In this instance the parties concerned were Muhammadans, and they never lived with each other again.

A third way of effecting a divorce is this: When a man finds a woman unfaithful he questions her and names her lover. She does not reply. He then brings the man to his house and tells the woman: "You and this man know each other. You may go with him. I don't want you any longer". He then makes the woman over to the man by placing her right hand in the right hand of the man. He also puts Rs. 2 in the hand of the woman. Having done this he sends the woman out of his house, and she goes away with her lover and lives with him from that day as his wife.

Funerals—Shradh ceremonies are performed for the dead thirty days after day of death. A feast is given and friends and others are fed. The Brahman receives Rs. 5, also a cow, a dhoti, a pachra (towel), and a dao (bill hook).

At this time a Boinab (religious mendicant) gets a brass thakur for the purpose of being worshipped. For this he receives one rupee. He sings religious songs and plays on a drum. For this he is feasted, and when he is leaving the house he is given from 4 to 6 annas.

The dead are burnt or buried—generally the latter. At burial the head of the dead is always facing northwards.

Food—The Dobasiyas eat rice and all vegetables, pig, goat, duck, fowl, peacock, deer and also rhinoceros' flesh when obtainable. They prepare rice-beer in their homesteads and drink it daily.

Inheritance—On the death of a Dobasiya property descends to the widow. If she voluntarily gives a share of it to a son, he may take it; but not otherwise. The children get nothing so long as the mother is alive and remains a widow. When the widow dies the entire property is inherited by the son. If there be no widow the son succeeds to the property. If there be no son the daughter gets it.

III THE MECHEs

Origin and character of the Meeches—The Mech and the Kachari are considered as the same people, but in the Duars they also call themselves Bodo, which means a great people. In general they attain the height of about 5 feet 8 inches or 5 feet 9 inches. The men are muscular and robust; the women nicely formed and plump, and neither sex is too fat. They have small oblique eyes, high and prominent cheek-bones, and flat, short, and broad noses. Their hair is black and their complexion an olive brown. They are frank and courteous, friendly among themselves and hospitable to strangers. Simple in their habits and as their wants are easily satisfied they are forgetful of

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yesterday and careless of to-morrow, and they have little of the play of memory and foresight, which is ever unrolling before our minds the panorama of our own past and future life.

False swearing is particularly obnoxious to the Meches. A witness in court takes a fearful oath, which is so singular that I give it entire through a translation: "I will speak the truth. If I speak not the truth may I and my wife and children be destroyed by Mahakal (the spirit who is believed to rule over wild animals). Let tigers and bears kill us. Let sickness seize us and all belonging to us. Let us all perish and die".

Clothing—The men wear a cloth round their loins which covers them from the waist to the knees, and is called gamcha. A cotton coat which some of them wear to cover their bodies and arms is called buchla. A cloth which covers their heads is known as pagree, and a sheet with which they cover themselves in the cold weather is called hisma. The women wear a silk sheet called eudi dokna or a cotton one known as dokna gofut, with which they cover themselves from their bosoms up to their ankles. The sheet is tacked on the left side or over the chest.

Personal ornaments—The ornaments worn by men are:

		Rs.	A.	P.
1	Long earrings of silver called Kheru	1	0	0
2	Round earrings of silver or brass	..	Enthi	0 8 0
3	Finger ring of silver	..	Nashtam	1 0 0
4	Bracelet worn by boys	..	Nasantar	4 0 0

The ornaments worn by women are:

1	Nose ring of gold called Nakaful	1	4	0
2	Pin of silver worn on top of ear	..	Baola	1 8 0
3	Earring of silver, with pendant worn over the ear	..	Kandla	4 0 0
4	Earring of silver worn in lower part of ear	..	Puti	2 0 0
5	Earring of silver worn at base of ear	..	Karam-fala	4 0 0
6	Flat bracelet of silver	..	Baoti	3 0 0
7	Bracelet of silver	..	Muta	5 0 0
8	Ditto os shell	..	Sanka	3 0 0
9	Finger ring	..	Nastam	1 0 0
10	Necklet of silver	..	Haskli	10 0 0
11	Necklace of do.	..	Chandra-har-jin-gri	12 0 0
12	Ditto of do.	..	Jangri-jibo	9 0 0
13	Ditto of coloured beads	..	Laogosam	0 8 0
14	Ditto of large corals	..	Pual	1 8 0
15	Ditto of small do.	..	Lugomo	0 8 0
16	Ditto of rupees	..	Taka-sri	..

The more expensive ornaments are worn only by the women of well-to-do Meches. No ornaments are worn on the legs and feet.

Food—The substances chiefly used as food are rice, fish, goat's meat, duck, fowl, pigeon, deer, rhinoceros,

meat when obtainable, buffalo meat, pig and a variety of vegetables. They also drink milk and use mustard oil for cooking food. Ghi is eaten; also dahi. The blood of pig is cooked with vegetable curry. Marrow is obtained from bones of pig, deer, and goats. Indian-corn is eaten both raw and cooked. Plantains, papeya, oranges, and other fruits are eaten. Til seed is called sibirig bigodh and is grown round the cotton plant. The seed is crushed in the sam (wooden mortar) and is mixed with vegetable curry as a whet to the appetite. Khardoi-bedai is used for flavouring curries. It is made from the twigs of the kalai (pulse) and mustard plant, the roots of the cotton plant and root of plantain trees. These are well dried and burnt; the ashes (khardoi) are into a bamboo basket called khardoi-kholong, and water is poured over the ashes. This water drips through into a vessel and is called khardoi-bedai. Roselle is eaten and is cooked with khardoi-bedai, which diminishes the acid taste. Salt and sugar and sweetmeats of all kinds are eaten. Peacock and jungle fowl are caught in nets or are shot and eaten. Kerosine oil is burnt at night in every house.

Food is cooked by the mother of the house, but if there be a daughter sufficiently grown up or a daughter-in-law she cooks the food for the family, but is assisted by the mother. Meals are prepared in the north hut in earthen or metal vessels.

Meals are taken three times daily—once in the morning, when cold stale rice, which may remain over from the meal of the previous evening, is eaten. This is called moi-khamgoj-ang. Everyone eats this. After this the men proceed to the field for ploughing and other agricultural work. They return home at mid-day. This time is called sanjo-fu, and the family has a warm meal consisting of rice, curry, and meat, if available. If fresh meat is not obtained, any dry meat which is in the house is cut up, softened in cold water, and cooked into curry. After this cattle are watered, firewood is brought, and other work relating to the house is attended to. Cattle are brought in and tied up in their shed, which is called the moshu-goali, and by this time, which is called bi-ni-mikam, the evening meal consisting of warm rice and curry is ready and is eaten.

The male members of the family eat first, afterwards the women. Children eat with either of the parents and whenever they wish to do so. Meals are taken by everybody in the north hut except by the parents who eat in the hut in which they remain. The woman who may cook the food takes it to them there. If a friend of the family be present he is honoured by having his meals with the head of the house.

Drinks—The liquor drunk by Meches in the winter months is called Bokha-jao. It is made from rice which is cooked and allowed to cool in an earthen vessel. Some emao is put in to assist fermentation. After three or four days the contents of the vessel are taken out as required and mixed with water in another vessel called Kalanga (trunk of a tree hollowed out). The mixture is strained and drunk by men, women, and children. It is invigorating; but not very intoxicating. Another liquor called Hasa-jao, which is drunk only during the summer, is made from rice in a still and is very intoxicating.

Homestead—Having selected the new site, the head of the homestead goes there with the deosi, who then makes two holes in the ground. He puts two grains of rice in line in each hole and covers the holes up with a leaf, over which he puts earth which is well pressed down. This is done in the afternoon. Early next morning the deosi goes with the man and

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sees whether the rice is in the holes or not, in the position in which they were placed. If the rice be found undisturbed, the new site is considered good and building operations begin. The old site is, however, not relinquished before a suitable offering is made to the deity. Two fowls are killed there by the deosi and are given to Mahakal, and two pigeons are killed as an offering to Mohes tacur and Grajjo respectively.

Four huts comprise the homestead of a Mech. The posts of these huts are of any timber that may be available. The walls are made of null or madwa reed or of thuri grass, which is plastered over with mud well mixed with cow droppings. The roof of the huts is made of khagra reed, which is abundant all over the Duars and costs nothing, and over this a thick layer of grass is put. The grass is tied to the roof with thin strips of bamboo or garal (a kind of cane). This is called thewal. Jute string is not used. The huts are re-thatched every year or every second year as occasion may require, otherwise they are sufficiently strong and last for six or seven years without being renewed in any way.

The north hut faces south and is called noma. It is the largest hut. The Thansri tacur of the Mech is believed to remain there. Food is cooked daily in this hut, and as it is considered the fortunate hut all newly-married people remain there. It must always be vacated for a newly-married couple.

The east hut faces west and is generally occupied by the parents of the family.

The south hut faces north, and is occupied by one of the family, frequently the son.

The west hut faces east, and is occupied by some other member of the family, generally a married son, if there be one.

If there be any unmarried girls in the family they are accommodated with a separate house, which is called mandao, which means hut for single people. The unmarried young men remain together in the nocha, which is a hut standing on posts about 12 or 14 feet off the ground with a roof which is made so low that no walls are necessary.

Marriage customs.—When a young man desires to marry a girl his parents send a friend to the parents of the girl to ascertain whether they are agreeable. This friend takes with him nine pan-leaves and nine areca-nuts, which are tied up in a packet which is called guaetao. If there be no pan or betelnut available, he takes one rupee with him. This present is given to the girl's parents, who are then asked whether they are willing to give their daughter to so and so, the name of the young man being mentioned at this time. If they acquiesce, the friend returns and informs the parents of the young man. Two or three days after this the girl's parents come to their house and present them with a guaetao of nine pan-leaves and nine areca-nuts. A few days after this the parents of the young man purchase some more betelnut from the market. Then four handis of jao are made. Out of this one handi is drunk at the young man's house by his friends and relatives who are feasted at the same time. The other three handis, as also about 10 seers of rice and the betelnut, as well as some pan-leaf are carried to the house of the young woman by seven men and two women who are called hairathis—nine persons in all. Here the three handis of jao are deposited in front of the Siju tree (Bato tacur), and while the seven men halt in the chetla or courtyard the two women who

came with them enter the north hut taking with them some of the pan-leaf and betelnut which have been brought. After this the friends of the girl assemble. The women sit together in the north hut and the men sit in the chetla and discuss the marriage. The two women who have come from the young man's house then cut up some of the betelnut that has been brought and distribute it among the women who may be present. The betelnut that is left in the courtyard is cut up by the men and is eaten, and the men talk over the value of the girl. This is called the "Madam taka," and may be Rs. 40 or Rs. 60; sometimes it is Rs. 80, and not unfrequently it is as much as Rs. 100. If the girl be good-looking and able to cook, spin and weave well, and if her parents be in good circumstances and are able to clothe her well and give her a fair amount of ornaments, her value is always high. During this discussion a handi of jao is taken into the north hut and is drunk by the women, while the jao of the other two handis is consumed by the men.

After this young man's friends return home and make arrangements for the marriage. This consists of giving a feast at which two pigs have to be killed; a sufficient quantity of jao is also provided. The marriage takes place in about a week or fifteen days from the day of fixing of the "Madam taka."

The arrangements being completed, the two hairatis and seven men, who went to the girl's house at time of the "Madam taka" ceremony, go there again with three handis of jao 10 seers of rice, and some pan-leaf and betelnut, and give these presents, together with a live pig, to the girl's parents. After this the girl and her father, brothers, and friends proceed with the bearers of the gifts to the young man's house. The girl's mother remains at home. According to custom she does not attend the marriage ceremony.

The wedding.—On arrival at the house, a sam (wooden mortar for husking paddy) is filled with water in which the girl washes her hands and feet. This being done, she enters the north hut accompanied by the women who had brought her. All of them sit there. The girl sits face eastwards in front of a small mud plinth which is inside the house and in which the Minao tacur (wife of the Siju) is believed to remain. At this time the young man is seated in the chali or verandah of the north hut near the Siju tacur. The girl holds out both her hands, palms upwards, in front of the Minao tacur. Then the young man's parents make over a piece of white cloth, Rs. 2, two areca-nuts, two pan-leaves, and the ornaments which the young man has given her to the two hairatis who place them in the girl's hands. Having received these presents the girl bows her head before the Minao tacur and Siju tacur. She then salutes the parents of the young man. If any of his relatives be dead their names are mentioned, and she bows after the mention of each name separately. After this she salutes all his other relatives who may be present, and then continues to remain inside the north hut.

The young man then sits in front of the Siju tree (Euphorbia Nivulia), which represents the Sib tacur. He wears a piece of white cloth over his head and back and holds the ends of the cloth with both his hands which are kept open palm upwards in front of him. Two pan-leaves and two areca-nuts are then placed in his hands by one of the men who conveyed the presents to the girl's house. After this he bows himself twice before the siju tree, once for the Sib tacur and again for his wife, the Minao tacur. He then salutes the girl's father by bowing before him and also her mother, as well as her relatives who may

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be dead. Their names are mentioned, and he bows after each name separately. Last of all he salutes all the friends who may be present by bowing before them.

The binding part of the ceremony is the receipt of the presents by the girl and bowing before Sib and Miao tacur. The pan-leaves and areca-nuts are kept by the couple and exchanged when they are alone together.

The marriage proceedings begin at daybreak and last about two days.

As soon as the ceremony of accepting presents and bowing to the deities is completed, the deosi invokes the blessing of Dharam tacur, which is the sun and moon, also Sib tacur and Miao tacur, who are asked to give the couple good health, to help them to live happily to an old age, and to have children.

After this the two pigs are killed and a feast is provided for all who are present. For this feast the young woman has to prepare one handy of rice and one of vegetable and pork curry. More rice and curry are prepared by other women of the house. When all is ready the young woman places a thali or plate of rice and curry before the Miao tacur and bows before it. Then she brings back the rice and curry and from it first helps a little to her husband and afterwards to each of the guests. The feast is eaten in the chetla or courtyard.

After this, and when leaving the house, each guest gives the young woman a present in money, the amount varies from 2 annas upwards, according to the means of the person.

A Mech may marry more than one wife. Some Meches have three wives. The number entirely depends on the ability of the man to keep them. A Mech woman may marry a Rajbansi; the ceremony of marriage is the same as between Mech and Mech. The Rajbansi has not to be taken into caste by the Meches; but he is outcasted by the Rajbansis and nobody may eat with him. A Garo has never been known to marry a Mech woman; but a Mech has been known to marry a Garo woman, and this involved his losing caste. No Meches eat with him. If he gives up the Garo woman he may be taken into caste again by the Mech community, but he has to pay all the expenses for a feast, which is about Rs. 25. Owing to this, marriage between a Mech and a Garo woman is very uncommon.

Widows are allowed to remarry. If a man desires to marry a widow he has to pay from Rs. 40 to Rs. 60 for her to her parents; the price is, however, always less than what was paid for her when she was a maiden. Only a few friends are feasted at the marriage of a widow, and this is done only with killing of fowls. No pigs are killed.

Divorce—If a woman cannot agree with a man, which, however, seldom occurs, she has to pay all the expenses he may have incurred in marrying her, before she can be allowed to leave him. When a woman returns everything she does so in presence of witnesses, and thereafter the man has no further claim on her. If a husband divorces a wife he will get nothing from her. A woman, who is divorced, may remarry.

Reproduction—The average age of both sexes at marriage is about 20 years. The average number of a family is about six. The number of boys and girls is about half and half. During her married life a mother has been known to have given birth to nine

children, of whom four lived and five died. Twins occur; triplets have never been seen. Twins have never been known to have lived. A woman who gives birth to twins is called udaia, namely, bad. If she gives birth to twins once nothing is said to her. If she does so again and a third time nobody will eat with her, she is chua, i.e., outcasted, and has to be taken into caste again, after appeasing the deity. This is done by giving a feast at which a pig has to be killed, as also a fowl which have to be offered to the Mahakal Deo. The deosi or priest kills the fowl in the chetla or angina (courtyard). The pig is killed and cooked by friends or relatives of the woman. Then a hari containing jao is brought and placed on the ground where the fowl had been killed and its blood is lying, and a thali (plate) containing some curry made from meat of the pig that had been killed is put over the hari containing the liquor. After this the deosi repeats some mantras and says: "From today this woman is taken into caste again". Then the woman holds both her hands, palms downwards, and afterwards upwards. She touches the thali and salutes it by lifting her hands to her forehead. She then divides the cooked meat among the friends who have assembled, and from that day she is admitted into caste again and Meches may eat from her hands.

When a Mech has two or three wives, they live with him in the same house. A mother suckles her child for three or four years and it is not unusual to see two children suckle their mother at the same time. Women are said to bear children until the age of about 45 years.

Children are named by their parents as soon as the cord is cut, and any name that may occur at the time is fixed.

In childbirth a woman is attended by old and married women. In cases of difficult labour the woman is left alone. Nothing is done to save the life of the child or the woman.

Ghar-Jia—Is a man who obtains a girl by working for her. When a man is too poor to pay his marriage expenses they are met by the parents of the girl on condition that the man will remain and work for them in the field as well as in the house for nine to eleven years. During this time he is clothed and fed by them. On the expiration of the period he lives with them or not according to pleasure.

Diseases—Skin diseases are common among the Meches. The most prevalent is white leprosy, which is called "dharam chata", and the more advanced form which is called "khuria biadh".

People who suffer from "dharam chata" are not outcasted. Meches eat from their hands and with them.

Those who suffer from khuria biadh are also not outcasted; but nobody will eat with them. The cause of the disease is not known, nor is it considered to be hereditary.

Medicine—When a Mech is sick it is said that he is jobra, which means sick, or that he is attacked by the Deo. "Mudivadang" is the expression used. No medicine is given and the use of medicine is not known. The deosi or priest is called in and does pujas. He sits at the head of the patient and says: "If this sick man recovers we will give the Deo a pig". He then waits to see what turn the disease takes. If there be no improvement within one prahar, or three hours, the deosi then says: "If this sick man recovers we will give a goat", or, after the lapse of

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another prahar, "we will give a fowl", and so on. Should the patient show any signs of improvement during the prahar in which any animal is mentioned, and should he recover, he is obliged to fulfil the vow made by the deosi for the purpose of satisfying the deity. If the patient dies the matter ends. But seven days after the death a sradh ceremony is performed by the person's son or brother, as the case may be. When a married woman dies her husband or son, whichever may be alive, has to perform the sradh ceremony.

Dhumi is called cholera. When this occurs a special puja is performed to appease the anger of Kali tacurani. Offerings of pigeon, dahi, chura, goat, and plantain are made to her, but not pig or fowl.

Gotre is called goolando. It is said that this disease affects old people more than the young. Its cause is not known.

Dropsy is called deinangdong. It is a common disease which affects both young and old. The cause is not known. The remedies used are (1) harina bis, which is purchased from the Bhutias. Its purity is tested by putting it in some water. If the water be absorbed the medicine is good. (2) Bisbas, which is also purchased from the Bhutias. These medicines are tied with a cord on the sick person's neck or hand. Some people are said to recover.

Consumption is called raj-biadi. It is not common.

Jaundice is called amai-mundong. Is said to be a very common disease. The deosi is called in and prescribes many bitter vegetables, which are eaten by the patient and also rubbed over his body. The patient generally recovers.

Spleen enlargement is called pelai by Meches as well as Garos. No medicine is known. Fever is called lumjadung. Dysentery is called thoi-kinajadung.

Musio—The Meches are extremely fond of music, and their instrument are :

1 Flute of bamboo	called	Chipoor
2 Jew's harp, which is made by blacksmiths	"	Gongna
3 Violin played with a bow	"	Bini
4 Guitar played with a small piece of bamboo	"	Dotra
5 Violin played with bow	"	Serja
6 Small drum	"	Nagra
7 Big do.	"	Kham

All these are played by the young men of a village.

The kham is kept in the homesteads of few Meches, because it is considered to cause sickness and misfortune. The other instruments are played by the young people, especially in Kartik month, at full moon, when the festival of Daobo Khela is held, and again at end of Kartik month, when the Chorkhela festival is held. The boys of a village dance and sing from house to house and receive presents of pice, rice, jao, &c.

Spirits and deities—The Meches worship the following deities :

Mohes tacur—Is feared, because he watches people who may commit a fault and punishes them. Offerings of goat, pigeon, plantains, atab rice, and milk are made to him whenever necessary.

Bato—Who is supposed to remain in the siju tree (*Euphorbia Nivulia*). This tree is planted in the chetla or courtyard of every Mech homestead and is regularly worshipped. Offerings of goat, fowl, pigeon, pig, and jao (rice-beer) are made to him.

Mahakal—Is a good spirit and is believed to be ever watching the actions of the people. Offerings of pigs, fowl, and jao are made to him.

Grajjo also called **Kali**—Is said to be the cause of much trouble and sickness when she is angry. When she is specially displeased she causes cholera. Fowls, goat, dahi, chura, and plantains are offered to her at this time.

Biso-Hari—She is given a small hut which is erected on east at some little distance from the homestead and wherein she is believed to remain. She causes sickness in the homestead and gives much trouble. Offerings of duck, fowl, goat, pigeon, dahi, and chura, also plantains, are made to her to obtain her good will.

Minao tacur—She remains in the north hut, where a small mud plinth is made for her. Offerings of pig and fowl, also of jao, are made to her whenever there is sickness in the house.

Funerals he are buried: no corpse is burnt.

Inheritance—Among Meches, property descends from father to son. If there be more than one son, they get equal shares. If there be no sons the nearest male member inherits all. The widow and daughter get nothing.

Nomadic life—Writing of the Meches in 1875 Colonel Money, the Deputy Commissioner, said as follows :

"As we know that Meches find the proximity of permanent cultivation not to be congenial with their own habits, and the tract in which we find the decrease in revenue from dao tax, are those in which tea cultivation has been extended, we may consider that this easterly movement has been due to the opening out of tea gardens. I have of late observed that Meches are using ploughs much more freely than they used to do, and also that in many places they employ Rajbansis to plough for them. I have also been informed that in parts they are giving up cotton cultivation and taking to vegetables, pepper, and cereals of which they find a better and more remunerative sale in the tea garden than for cotton. Where Meches take to steady cultivation by the plough they make the most efficient cultivators. They go in for artificial irrigation in a surprising manner, and I have noticed their water channels more than a mile long. Everything should, therefore, be done to encourage this tribe to settle and become Government raiyats, and I shall always be prepared to listen to any recommendation to let Meches have arable waste lands on terms more favourable than are given to settlers".

The habits of the Meches were nomadic, and they used to shift their cultivation and homesteads from place to place that they may obtain the full benefit of the virgin soils. But finding themselves ousted from their lands by the tea planters on the north and by Rajbansis and Muhammadans on the south, they at last see the necessity of changing their habits and settling down permanently. In this settlement I have leased 766 jotes covering 20,593.66 acres to Meches. The revenue fixed as payable by them is Rs. 18,523.

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Crops—The crops cultivated by Meches are the same as those grown by Rajbansis, namely, paddy and mustard seed, also a little jute and tobacco. The method of cultivation is the same. They also grow cotton, an account of which is given in paragraph 541* of this report.

Cotton is sold by the seer or bhar. The weight of a seer is equal to Rs. 168. Eighteen seers make one bhar. When cotton is scarce, the weight of a seer is Rs. 168. When it is cheap the weight of a seer is Rs. 189.

Labour—A Mech jotedar has his chukanidar and adhiar similar to the Rajbansis. He also has a tenant called bhatua proja. This is a man who works for a Mech. In return he receives his food and half the crops of the land he may cultivate.

Fishing—Meches catch fish by poisoning small streams and still water. They use a poison called Ru-gubdi. It is a creeper easily obtained in the jungles and is cut into small strips about a foot in length. These are tied in a bundle and are well beaten with a stick in the water and fish are killed thereby. The fruit of the gorol tree called biskantakra is pounded in a mortar and made into pulp. This is mixed with water and kills fish. A tree called kodablang is also used. The bark is taken off and tied in bundles which are well beaten to cause the juice to come away. This juice mixes with the water and kills fish. In still water the bark of the siris or lakri tree is pounded and mixed with the water and kills fish. The fruit of the bouka tree is pounded and put into still water and fish are killed thereby. The small bamboo traps used by Rajbansis are also used for catching fish.

How Endi silk is obtained—The Meches cultivate the castor oil plant called Endi (*Ricinus communis*) for the purpose of rearing worms for silk. The Endi worm is called Impao. The Impao-bedai (eggs of the moth) are kept lightly wrapped in a piece of cloth together with a bit of charcoal called Hangar. The Impao (worms) appear in eight or ten days, when they are carefully fed with the most tender leaves of the Endi tree. They grow and become cocoons in about ten or fifteen days. The cocoon is called Endi-bitop. As soon as well formed some are reserved for seed, while the remainder are carefully opened and the Impao-lata (chrysalis) are taken out and made into curry and eaten. The shell of the cocoon is put into boiling water for a time, and is then removed and wrapped in a Kuchoo leaf in which it remains for three or four days. When quite soft it is fixed to a stake, and after this the silk is unwound. The process of unwinding is called Endi-Khundung-luangao. The cloth known as Assam silk is made by Mech women from this.

Weaving—The form of the loom used by Meches is simple and may be thus described :—There is a roll or "yarn beam" on which the "warp" of unwoven thread is wound or "beamed," and another roll or "cloth beam" on which the woven tissue is received. The "warp" or the threads passing from one roll to the other are kept in a state of tension, and each thread passes through an eyelet-hole in a vertical cord or "heddle". The alternate heddles are attached to two separate frames, so that one set of alternate threads in the loom can be drawn away from the other, either upwards or downwards, and leave a space between the two sets of threads, through which a

shuttle can be thrown with the weft or transverse thread. This is then beaten up against the thread last thrown in by means of a grating, through the intervals in which the warp threads pass and which is fixed in a swinging batten so as to give weight to the blow. The two sets of warp threads are of course alternately raised and depressed between each throw of the shuttle, and this is done by means of treadles. For weaving patterns several sets of heddles are employed. The patterns are produced by coloured threads being thrown in :

Shuttle	is called	Makhu
Loom		Hichan chali
Heddle		Rasho
Cloth beam		Shalbilep
Yarn		Shal-gandai
Spindle wheel		Takuri

Dyes—Yellow is obtained from a tree called gumabimfang, also from the bark of the asao and temporary trees. Red from lac and the Bhutia manjista. Blue from indigo. In obtaining red the leaves of the tengthalang creeper are boiled with the thread, and lac or manjista. Mesta-ranga (Roselle) or natko are also used.

IV THE GAROS

The Garos are believed to have come into the Duars from the Kasia and Jyntia Hills, but no correct information is available regarding them. Like the Meches they were here long before the Duars were annexed by the British Government.

Castes—The Garos are divided into 26 clans or sub-castes as follows : (1) Dedoi, (2) Champek, (3) Dalangsha, (4) Maji, (5) Kara, (6) Uni, (7) Labong, (8) Lokbok, (9) Chingchet, (10) Banda, (11) Bantao, (12) Kama, (13) Sumbri, (14) Nogra, (15) Kalangchet, (16) Pomrai, (17) Rongath, (18) Lamook, (19) Nogman, (20) Sandu, (21) Panjibak, (22) Ronkan, (23) Margan, (24) Chapra, (25) Dhapra, (26) Chaodi.

A man and woman of the same caste cannot marry. One caste must marry into another caste. The issue of the marriage joins the mother's caste whatever it may be. The Banda caste do not drink milk.

Inheritance—Relationship is traced in the female line. Property descends to the widow. The male members get nothing. If there be no widow property descends to the daughter; if there be one, and not to the son. If there be no daughter the next female relative takes everything. On the decease of a man's wife he may marry her sister if there be an unmarried one. If not, he has to leave his deceased wife's homestead and return to his parents. He gets nothing belonging to the wife.

Marital relations—The man and the maiden settle matters between themselves privately and have intercourse with each other. Afterwards the maiden asks her mother to give her choice. Then the mother prepares some rice-beer called chokot and invites the young man to her hut at night. She asks him if he is agreeable to take her daughter. On his expressing consent she gives him four pans (betel-leaf) and four areca-nuts, also a piece of English cloth or Garo cloth. His acceptance of these gifts constitutes the "koor", which means that from the day he receives the articles he is precluded from going to any other girl. After this the young man returns to his own parents. On the expiration of four or five days the

* See Section of this appendix in this volume—A.M.

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marriage ceremony is performed at the girl's house. Liquor (chokot) is prepared there according to the circumstances of the people. Pan (betel-leaf) and gua (areca-nut) are brought by the girl's parents. White gourds, called chokot lahoo, are brought according to the number of people in the family of the man. These gourds are provided by the girl's parents and are hollowed out. They are filled with liquor and one is given to each member of the young man's family. A Guaechotop or parcel containing four pans (betel-leaf) and four guas (betel-nut) is also given to them. These gifts are made by the girl at the house of the young man, who is then, on the same day, brought to the house of the girl where all friends have assembled. Here the young man having previously bound a pagga of white cloth round his head, sits inside the house alongside the girl, who also wears a pagga on her head. The Huji or priest then cuts two guas (betel-nut) into two equal parts and places the four pieces in the right hand of the young people. Each receives two pieces. After this the Huji takes the two pieces of betel-nut which are in the man's hand and puts them into the hand of the woman, while those which are in the hand of the woman are taken and placed in the hand of the man. This exchange of betel-nut constitutes the binding part of the marriage ceremony.

If the young man's mother disapproves of the marriage the man has to return the cloth and other articles which he had received at the "koor" ceremony, together with a fine of Rs. 5.

If, after marriage, the girl leaves the man or the man be unfaithful to the girl, the offending party has to pay a fine of Rs. 63. If, however, the man or the girl be unfaithful, but still continue to live with each other, the party that may have offended has to pay a fine of Rs. 30, which is levied by the village headman and is divided as follows :

Rupees 12 are used for feeding and feasting the village headman.

Rupees 18 are taken by the wife or husband offended against.

Marriage also takes place in the following way : On the parties consenting or the woman being a widow and wishing to re-marry, the friends assemble. A handy of country liquor (chokot) is brought together with a cock and hen or two hens. These birds are sacrificed by the huji (priest), one being offered to Mahakal and the other to Rishi and Juggo. The sacrifice is made in the courtyard (angina) of the girl's house. First, two plantain leaves are put on the ground and some wetted rice is placed over them. Then the fowls are killed and their blood is poured on the rice. Some chokot is also poured on the leaf at the same time. After this the remainder of the chokot is drunk by the friends who may be present. These people then tell the bridegroom and bride : "You are agreed, go and do as you may please". After this the marriage is complete, and the man goes to the house of the woman. As soon as married a man generally abandons his parents. He pays nothing for his wife and is required to live with her and work for her.

A Garo may marry more than one wife, but very few have more than one. A man may marry two sisters, in which case one Dehta or deity will suffice; but if there be women of different clans each must have a separate Dehta. This arrangement never works satis-

factorily, owing to which a Garo generally has only one wife.

The children of a marriage go to the wife. The man has no title to them. The marriage system is entirely one of consent. A man may marry his mother's brother's daughter; but he cannot marry his father's brother's daughter because he would be out-casted. A man cannot marry his sister, nor a woman her brother. Wives who have been divorced marry again. When married, wives are generally good and always very hardworking. Widows are allowed to re-marry.

Reproduction—The average age of both sexes at marriage is about 16 years when puberty may be said to begin. The average number of a family is five, consisting of one girl, two boys, and the father and mother. The greatest number of children observed in a family is seven, of whom two were daughters. This is the greatest number of children known to have been born from one mother during her married life. Twins sometimes occur, but very seldom. In such cases the woman is badly thought of, and if she should happen to give birth to twins twice or three times, she has to be outcasted and taken into caste again. A barren woman is called "pamadwa". She is looked down on by the community. The number of barren women is said to be few.

If a child is born out of wedlock the woman is asked whose child it is. On her mentioning the name of the man, he is questioned by the mondols or headmen as to whether he will have the woman or not. If he refuses he has to pay Rs. 5 for support of the child; this is called "sharemi", and also a fine of Rs. 5 to the woman; this is called "legmammi," which is equal to shame-money. If he takes the woman he has to sacrifice a cock and a fowl to appease Rishi and Mahakal. After doing this he may keep the woman. If the child be the offspring of a Rajbansi or Meeh, the woman is outcasted. She is not taken into caste again until she provides a pig and a fowl and with them feeds the village community.

Childbirth—During labour a woman is attended by women, all of whom must be married, unmarried girls do not attend. The woman is outcasted for seven days. The child's othpai (cord) dries and falls off within this period. After this a cock is killed by the huji or priest inside the house in which the child may be born, and he repeats various mantras there to satisfy Rishi. This is called the Sudaparni ceremony. On this occasion the child's parents fix its name. Having killed the cock the huji ascertains what the child's name is to be. He then says : "From to-day this child's name is so and so". After this chokot is drunk and there is feasting, and from that day the woman is considered clean and people may eat with her. The parr (childbirth) is put in an earthen pot called matak, and is buried in the ground at some distance from the house and a fence is put round the place.

Homesteads—All Garos build their houses in line facing east and west. Each house is divided into three compartments. One of them, called Chasang, is used for storing paddy and other articles; the centre room, called Fongkar, is used for cooking in; and the third or front room, called Noo, is kept for sleeping in. Alongside this room is a verandah called Punche-lai in which visitors remain. The houses on the east of a block face those on the west and *vice versa*. There are two doors to each house. The front door, called Nunukdur, is at the north corner of the house.

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The other door called Fongkarnuk-dur is in the centre room and must face the south.

Prior to building on any ground a Garo performs the following ceremony: The block of land on which it is intended to build is first cleared of jungle by the head of the family. After this some grains of rice, always an even number, are placed in a hole which is dug in the centre of the block. The hole is round and about 4" in diameter. Four grains of rice are placed in one line and fourteen grains of rice in a second line inside the hole. After this the hole is covered up with a leaf on which some earth is placed. Then the huji (priest) prays to the deity to indicate the luckiness of the place by allowing the grains of rice to remain as placed or its unluckiness by scattering the rice. After the lapse of one night and on the following morning the position of the rice is ascertained. If it be as had been placed, the homestead is built on the selected site. If the grains of rice be found disturbed, a fresh site is selected and cleared of jungle, and the same ceremony is gone through until a good place is obtained for building on.

Prior to the making of a hole if a tulsi plant be found in the village some of its leaves are dipped in water which is then held sacred. The water is scattered on the ground where the jungle is cleared and where the hole is to be made.

Houses are built of bamboo which are tied together with strips of cane. Jute string is not used. The straw on roofs of houses is also tied with cane strips. The fencing of houses is done with khagra or null grass or split bamboo. All materials are easily obtained in the jungles. The houses are fairly strong, and if well built and thatched last for two or three years.

Among Garos unmarried young men are kept apart from the young women at night. They remain outside in the Punchelai or verandah or in a covered platform called Tarao-naksa, which is built on posts alongside the house, while the young women sleep inside the house with the older women.

Household property—The property in a Garo's house is:

		Value
		Rs. A P.
1	Basket carried on back called	Ilak 0 8 0
2	Mat of bamboo or cane for sleeping one	Dam 1 0 0
3	Small basket for reaping paddy	Mamet 0 4 0
4	Pole for husking paddy	Mantrai 0 6 0
5	Wood mortar for husking paddy	Sam 1 0 0
6	Bamboo tray for cleaning paddy	Van 0 8 0
7	Ditto ditto	Dali 0 3 0
8	Bamboo basket for measuring grain	Doon 0 2 0
9	Ditto ditto	Kunohi 0 1 0
10	Bamboo or cane cylinder for measuring rice for eating	Kata 0 1 0
11	Earthen vessel for cooking in	Matuk 0 2 0
12	Iron vessel for cooking in	Tasla 1 4 0
13	Earthen vessel for storing water	Kambai 0 3 0
14	Brass vessel for storing water	Ghara 5 0 0
15	Ditto ditto	Lota 1 4 0
16	Brass cup for drinking water	Khuri 0 8 0
17	Metal plate for eating in	Thala 1 4 0

Food—The chief article of food of the Garos is rice. Fish of every kind is eaten; also flesh of pig, deer, goat, ducks, fowls, and pigeons. Rhinoceros, when obtained, is considered a great luxury. Large grasshoppers and locusts are also eaten. Vegetables of all kinds are eaten. Indian-corn is grown by the Garos and is eaten raw, when tender, or is boiled, roasted, or parched when too ripe. Milk is drunk by few Garos. They, however, enjoy dahi or curd and eat it with chura or parched rice. The blood of pig is cooked up with vegetable curry and is much relished. Mustard oil is used for making curries. Vegetable curries are cooked with "hari" or "cheka", as the Rajbansis call it. The process of making hari is this: The root and stumps of cotton plants, mustard plant, kalai (a pulse), as also of plantain trees are well dried and then burnt. The ashes are gathered and put into a bamboo basket called "Harjokroth". Cold water is then poured over the ashes and is allowed to drip into a vessel below. The drippings are called "hari", which is a whet to the appetite. Fruit of all kinds are eaten, and sugar and sweetmeats are enjoyed.

Meals—With the crowing of the cocks rice is put on the fire, and the first meal is taken between 7 and 8 A.M. The women eat in the apartment where food is cooked. The men eat in the sleeping apartment. The children, if girls, eat with the mother; boys eat with the father. After this both men and women go together to work in the fields. They return home at about sunset, when rice for the evening meal is put on the fire at once. While the rice is cooking they wash themselves, change their garments, and attend to household matters. After this the evening meal is taken. The entire family eat at the same time, but the men and women do so in separate apartments as stated before. Food is eaten on plantain leaves, or on a thala (metal plate). Ly means plantain, Lychuck means leaf, but plantain leaf is called Lyloonchak. Approximately about half a seer of rice is eaten at each meal by each adult person.

Narootics—Tobacco of inferior quality is grown by the Garos; they also purchase the leaf. It is eaten with pan or betel leaf, and is also smoked in a pipe or "fuski". The bowl of the fuski is called "fuski-mutak" and is generally of metal; but the upper part of an earthen chillum is also often used. The stem of the pipe is called "fuskinai", and is a reed which the jungles produce; the mouthpiece is called "fuski hatang" and is of metal. Ganja and opium are never taken. The pipe, when smoked, is passed from man to man, but not from man to woman. Women who smoke pass their pipes to each other.

Fire—Fire is called Var and is obtained with flint and steel. Steel is called thukni; flint is called loong.

The sparks obtained by striking the two, one against the other are directed to the Kap (bark) of a tree called Chowai, a kind of wild date-palm. The bark of this tree is dried and used for making fire.

Clothing—Among Garos, men wear a cotton dhoti called gumcha, and a coat to cover their bodies, called bukhchili. They cover their heads with a piece of cloth, which is called pagga. A strip of cloth worn round their loins when they go to work is called kalai. A white cotton coat worn by men is called bukhchil-holang. A black coat worn by men is called bukhchilpenek. The strip of cloth which a woman wears round her loins is called lofoon. The cloth which she wears round her chest is called kambang. The cloth which she wears over her head and round her forehead is called pugga.

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A child, whether girl or boy, is allowed to remain naked until it is able to walk. This is till about the fourth year.

The stick which a woman carries in her hand is called *kondam*. The band by which a basket is suspended to a woman's head is called *hak-koor*. The basket which a woman carries on her back is called *hak*.

Weaving—The only material used for manufacture of Garo cloth is the cotton called *fun*, which is grown by the Garos. Good stout thread is spun from it, and the women make this into cloth in the manner in which gunny cloth is prepared. The weaving is plain and in patterns. The thread is colored with lac and the Bhutia *manjista* dye.

Each piece of cloth is about 5 cubits long and 1 cubit 4 fingers broad. It sells at 8 annas per piece, or two pieces for one rupee. The cloth worn by Garo women round their chests (*Kamban*) is sold at one rupee a piece.

String is made from the bark of a tree called *Rehit*. The fibre is extracted after the bark is dried. This fibre is made into nets which are used for fishing and is said to be very strong. Jute is purchased and nets are prepared from it for the purpose of capturing deer and pig.

Ornaments—Among Garos the men wear only long earrings, which are made of silver and are called *Doldang*.

The ornaments worn by women are made of silver or glass beads, and are as follows:

English	Garo	Value Rs. A P
Round earrings with flowers of silver	Nag-peret	2 8 0
Round earrings of silver with a cut in the middle	Gardom	3 0 0
Round earrings with screw	Puti	3 0 0
Ear-pins of silver	Buldakum	2 0 0
Nose pin of gold or silver	Nokung-par	1 4 0
Necklace of coloured glass beads	Tokam	0 3 0
Bracelet of silver	Songkung	2 0 0
Ditto	Songkung yokok	5 0 0
Waist-chain of beads	Song-tokum	1 8 0

Religion and deities—The chief deity is *Rishi*. *Juggo* is said to be the husband of *Rishi*, and is also worshipped. Both are spirits who are believed to move about the dwelling places of Garos. In the month of *Choitro* or *Bysack* a new bamboo is cut and planted in the *Hat-Kung* (courtyard) to represent *Rishi*, in order that the house or village may be delivered from enemies, fire, sickness and other troubles. The bamboo is called *Sirfak*. *Rishi* is said to eat flesh of pig and fowls. She also drinks *chokot* (liquor). *Juggo* eats no flesh; but drinks liquor. *Rishi* is believed to be the greatest of these two deities, and for this reason a Garo man has to submit to a Garo woman in all matters. Her whims and fancies are law to him.

Three other deities, viz., *Mohes Tacur*, *Mahakal* and *Lamengju* (the *Grajjo* of the *Meches*) are also worshipped to prevent sickness. A *than* or hut is erected, and an image of *Lamengju* is made with pith (*sola*) and kept therein to honor this deity who is supposed to cause cholera and all fatal diseases.

In the months of *Chait* and *Bysack*, when fires are prevalent, a ceremony is performed to persuade *Rishi* to keep fire away. The ceremony is this: A square shaped cup called *Dupai-halai* is made of leaves, and

ashes are put into it. Fire is placed over the ashes, and then *Dupai* (incense) is burnt. The cup containing the fire is placed on a plantain leaf while the incense is burning, and is put before the *Sirfak*, in the *hat-kung* or court-yard, which is dedicated to *Rishi*. Some *chokot* is poured on the plantain leaf.

The same ceremony, with slight additions, is performed when a house is re-thatched with new straw. Those Garos who can afford it sacrifice a white kid, which must be a female. A male kid would displease *Rishi*. If an entirely white kid cannot be obtained, a black or red one is killed; but there must be some white marks on it. When a kid is killed two *Sirfaks* have to be erected in the court-yard, one being for *Rishi* and the other for *Juggo*. The *Thun* or liver of the kid is cut up and cooked, and some of it has to be offered to *Rishi* together with some liquor. The offering is placed in front of the *Rishi sirfak*. *Chokot* has to be put before the *Juggo sirfak* in order to satisfy that deity.

There is also a festival called *Subachini* among the Garos. It is held in the month of *Bysack*, and is observed by all Garos. They make offerings of plantains, a white he-goat, two pigeons, together with *pan* and *betelnut* to the goddess *Subachini* in order that she may keep their families safe from sickness.

Superstitions—When the Garos of a village wish to shift from one place to another, they have a custom of ascertaining whether the place is good or bad. This is called "*Bhorutai*", and is performed by *huji* (priest). Accompanied by the village headmen he goes to the site which it is desired to build upon, and jungle is cleared from a portion of the land. After this the *huji* wets some rice and puts it on the ground, together with two sticks of *dhup* or incense which are procured from the market. He then lights the incense sticks and invokes the spirit, while a Garo man is kept standing alongside the *tapers*. The spirit being invoked, enters into the Garo, who then appears to be possessed of a frenzy. He trembles and dances about, and only speaks when spoken to. He is questioned as to whether the place is good or bad. If it be bad, he says so, and the site is abandoned. If he declares that the place is good, the Garos go there and build.

Sunday (*Deobar*) is considered a bad day, because it is *Deo's* day. *Thursday* is also bad, because it is his or *poison* day.

Nobody is allowed to cut bamboos on a *Thursday* or *Sunday*.

Agriculture—The crops grown by Garos who cultivate land with the *Gogo* of bill-hook are cotton, *bhadoi* paddy, mustard seed, a little tobacco of inferior quality, and Indiancorn, brinjals, cucumbers, and a melon called *bangi*. Cotton called *Fun* by the Garos, and *Tacuri kalai* (a pulse) are exchanged with *baldias* (owners of *nack* bullocks) for paddy and salt. Brinjals, chillies and mustard seed are exchanged with *Meches* and *Rajbansis* for paddy and mustard oil.

Garos who have taken up *jotes* use the plough and other implements similar to the *Rajbansis*.

Crops—*Haimanti* paddy and jute are grown by them. The straw of *haimanti* paddy is thrown away, as plenty of green fodder is available for cattle. The place where paddy is stored after threshing is called *Mi-bakri*.

Watching of crops at night—Crops are watched at night, because great damage is done to them by wild elephants, deer and pig. Sheds are built on high trees or on posts, and are called "*Tongar*." Men and

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women watch the crops and drive wild animals away by either shouting at them or by lifting a Varjam (torch). The light from the flames of the torch frightens animals away.

Agricultural Implements—Most of the Garos cultivate land with only the dao or bill-hook. Only the more advanced of them, who are to be found in the western part of pargana Moraghat, cultivate land with the help of the plough.

Their agricultural implements are

Bill-hook	called	Gego
Sickle		Kangkha
Rake		Bhao
Axe		Vasi
Spade		Kodal
Axe		Baisai
Chisel		Batal
Do.		Boongi

Cattle—Few Garos possess cows. These who have them have taken up jotes and have settled permanently. Cows are not milked. Cattle droppings are now collected and used as manure in jute and tobacco fields.

Fishing—Fish are caught in small streams which are blocked up, and the water is poisoned with various articles. The poison used for ponds and still water is called gara-fung. This is the bark of the Korai tree. The holop (bark) is crushed and mixed with the water. Fish become intoxicated and some also die.

The bark of the kangkir-kalfang is also used. The bark is bruised and mixed with water. Fish are killed by it.

Punkar-fang or the Gorol tree is another Poison. The fruit of this tree is pounded with husk of paddy, and this is mixed with water. Fish die from drinking it.

The root of the Rahu fang or Kalkut creeper is cut up in pieces, about a foot in length, and is beaten on a stone or on a block of wood which is kept in the water which it is desired to poison. The juice which falls from the root poisons the water and kills fish.

The Biskuthli tree is also crushed and thrown into small streams. The poison from it kills fish.

Garos do not attempt to capture fish in large streams. In small ones they set bamboo traps called Dingir, Dhoska, Darika and Buring. They also use a long fishing net called Kheolic-hek, and a bamboo tran called Pallao. Fish that are caught are kept in an oblong basket called Duku.

Music—The only instrument of percussion used by the Garos is the Hem or drum. This is made from the trunk of a tree hollowed out. Its length is about 16 inches. On the two sides cow hide is well stretched and tied. It is generally played on the road leading to the river ghat, whence the daily supply of water is brought. The huji or priest comes and kills a fowl on the road as a sacrifice to the deity, and also makes an offering of chokot to him. The story of the origin of the hem or drum among the Garos as related to me by one Bhundru Garo is as follows :

"At first the Garos had no drums. They observed two men named Chanda and Chand Raja take the trunk of a tree, hollow it and tie skins to the sides. When the skins were beaten the sounds which they produced were pleasing to the ear, while the dancing of Chanda and Chand Raja to the sound of the drum was pleasant to the eye. Charmed at seeing them

using the drum the Garos imitated them and made a drum of the same kind. At the same time they offered a fowl and a handi of chokot to the deity as an expression of their thanks for giving them so nice an instrument, and since then under instruction of the huji (priest) the Garos have had a drum among their musical instruments."

The only other instruments are:—

- 1 Bangsi, which is a flute made of bamboo. There are seven holes in it, six being for notes and one for blowing upon with the mouth.
- 2 Debdri, which is a metal bell which is used when the hem is beaten.
- 3 Kala, which is a pipe about 7 feet long. It is made from the stem of null grass.

Measures—The measure for sale of cotton is one of weight :

The weight of	Rs. 189	= 1 khan
"	9 khans	= 1 dang
"	1 dang	= 1 dangsha
"	2 dangs	= 1 barsha

Cotton is sold at Rs. 4 to Rs. 6 per khan. Paddy is taken in lieu of money. The measure for this is one of capacity, and the doon used by Rajbansis is utilized. In exchanging mustard seed for paddy one doon (equal to about 15 seers) of the former is given for two or three doons of the latter according to the state of the market. Chillies are sold by the bhag and also by the khan.

Diseases—The diseases among Garos are fever, goitre, rheumatism, and bowel-complaints. The words used by them for describing their diseases are :

1 Fever	is called	Kalam
2 Headache	"	Dakamsha
3 Goitre	"	Gallbuk
4 Colic	"	Sha
5 Cough	"	Tokseptua
6 Cold	"	Sopai
7 Consumption	"	Raj biadi
8 Dropsy	"	Kanchikavartoa
9 Cholera	"	Rok

Medicine—In sickness the huji (priest) is called in and supplies any medicines that he may know of.

Funerals—When a Garo dies all the village head-men and matrons come and guard the body. Any chokot that may be in the house when a person is dying is removed before he dies and is kept in another house. In the morning a consultation takes place as to whether the corpse is to be burnt or buried. If the person died of leprosy or sores, he is buried. If he is poor and has no relatives or friend, he is also buried. If he has left a widow and children and has property, the body is burnt. After this ceremony the people immediately wash themselves. Then a man takes some leaves of the tulsi plant (*Ocimum sanctum*) and puts them in water; this water is sprinkled on the heads of all the people. They are considered clean thereafter, and they then wear clean clothes. After this they return to the house of the dead and feast there. A pig has to be killed, and rice and chokot have to be provided for all. The widow of the deceased has to fry rice and grind it, and give a little thereof to each of the persons who may be present and they have to eat it. By doing this, it is believed that the impurity caused by touching the dead is removed.

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No structures are erected over the dead. No stones are placed over their graves or in their honour. When people are buried, branches of trees are thrown over the grave to prevent jackals and other animals from disturbing the body.

THE BHUTIAS

As the Duars (the Gates or Doors of Bhutan), to which this settlement relates, formerly belonged to the Bhutias, a short account of Bhutan as also of its people would I think, be appropriate in this report, especially as a large Bhutia village, in which over 1,000 Bhutias reside, exists in Chunabatti within the Buxa subdivision, and a considerable trade in yak tails, wax, wool, &c., is carried on with Bhutan at Buxa.

The Bhutias or Bhots, as they are called belonged to the country known as Bhutan, which is situated between the 28° and 26° 45" parallels of north latitude and 89° 30' and 92° of east longitude. It is bounded on the north by the Zung and Ovi districts of South Tibet; east by the independent State of Towang; west by the district of Phari in Tibet and the river Tista; and south by the plain country known as the Duars. It is about 200 miles in length and about 75 miles in breadth, with an area of about 15,000 square miles.

A correct history of the Bhutias has, I believe, not yet been written. The Bhutias whom I have met at Buxa have never been able to give any clear account of themselves. The only full report on Bhutan and its people which we have at present is that of the late Sir Ashley Eden. If the particulars given below be found useful in any way by Government for the management of the Bhutias, I shall not have collected the information in vain.

Government.—There are nominally two supreme authorities at the head of the Bhutan Government,—the Dharam Raja or spiritual chief, and the Deb Raja or temporal ruler. To aid these Rajas in administering the country, there is a council of permanent Ministers. The Chief Minister under the Dharam Raja is the Lam-Khem, who is called the Lama Guru, and is head of all the Lamas. Next to him are the Dogi-Loben, Chinie-Loben, Yang-be-Loben, and Tashang-Aumje. These officers are appointed by the Dharam Raja from among the Lamas or priests. They attend only to spiritual matters. The duty of the Tashang-Aumje is to play the cymbals during worship and to lead the prayers. In position he is equal to the Dogi-Loben. Next to the Lobens are three Kudungs, who are appointed from among the Lamas by a council composed of the Lam-Khem, the five Lobens, and the Deb Raja. They are (1) the Paro Kudung, (2) the Chochen Kudung, and (3) the Sha Kudung. They hold office for only one year, and during this period their only duty is to look after the welfare of the young Lamas. There are about 1,200 Lamas under the Lam-Khem. Both the Rajas and the Lam-Khem, as also the Lamas and other officers, reside during the summer months at Tashichujong, which is the head-quarters of the Thimpu Jungpen, who has to support them out of the revenues of the country which is under him. During winter the Rajas and other officers reside at Ponaca, where they are supported by the Jungpen of that place.

The Dharam Raja.—The Dharam Raja succeeds as an incarnation of the deity. On the death of a Dharam Raja, a year or two is allowed to elapse, when the new incarnation appears in the shape of a child, who generally happens to be born in the family

of the Tongsa Penlow. The child establishes his identity by recognizing the cooking utensils, &c., of the late Dharam Raja. He is then trained in a monastery, and on attaining a suitable age is recognized as Raja, though he exercises no more real authority after his majority than he did before.

The Dharam Raja's Seal.—In his correspondence with our Government, an impression of the Dharam Raja's Court seal, which is a square one called Nga-Churhum, is made at the head of each letter in vermilion ink. The seal is about 4 inches square, with 2 circles inside it and 16 divisions in long lines running parallel to each other from the inner circle to the outer end of the seal. The writing in the first or inner circle means "From Bhutan". The writing in the 16 divisions of the second or outer circle means "I". The meaning of the sentences which appear in the 16 divisions shown by lines which radiate from the inner circle to the outer end of the seal, as explained to me by Dau Sam Dhup, Bhutia Interpreter at Buxa, is this:

- 1 I am the ecclesiastical and civil head of all Bhutan.
- 2 I am the pillar of Bhutan.
- 3 I am learned in all sciences.
- 4 I am the only one who can find out friends from enemies.
- 5 I am the greatest of all advisers.
- 6 My enemies flee at the sound of my name.
- 7 I was born by the special order of God.
- 8 I am the only one who fully obeys the commands of God.
- 9 I am strong in the protection of all
- 10 I am spiritual head of all the Bhutias.
- 11 I love those who live a godly life.
- 12 I crush down evil-doers and devils.
- 13 Who has ever defied me that has not repented.
- 14 I annihilate those who work against me by witchcraft.
- 15 Nobody has greater understanding than me
- 16 I am the only one whose soul never dies.

The Governors of Bhutan.—There are eight Governors in Bhutan, namely, Tongsa Penlow, who is at present the most powerful and intelligent official in Bhutan, Paro Penlow, Taga Penlow, Thempu Jungpen, Ponaca Jungpen, Angdoforang Jungpen, Jung-don-yer, and Deb Zimpen.

The Deb Raja.—When a Deb Raja is to be elected, these Governors go to the chief Lama (the Lam-Khem), and request him to offer prayers and ascertain from the deity as to which of them should be Deb Raja. Prayers are offered daily for two or three weeks, during which period the eight Governors have to be present daily. At the end of the period, the Lam-Khem mentions the name of one of the Governors. If all of them be satisfied with the person whose name is announced, he is duly elected Deb Raja. If not, prayers have to be continued. If the Lam-Khem mentions the same name three times successively, the Governor so named is duly elected. If, however, none of the officers is elected, the Dharam Raja and the Penlows and Jungpens select a Deb Raja from among the Lobens under the Lam-Khem. The installation of the Deb Raja takes place as soon as possible after a person is selected for the office.

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An auspicious day and hour are mentioned by the Lam-Khem. All the Governors, Lamas, the Lam-Khein, and the Dharam Raja and people assemble in the court of the Dharam Raja on the appointed day. If the person who is selected for Deb Raja be a Governor and a married man, he is obliged to abandon his wife. He cannot live with her and his children under the same roof; but he is permitted to provide quarters for them and also to support them. They cannot see him or speak to him unless he permits them to do so. On the installation day a grand *darbar* is held by the Dharam Raja, the principal Lamas, and the Governors. The Deb Raja has to bathe and then to put on new clothes, instead of the clothes which he had worn as Governor or as Lohen. The new clothes are provided out of a large stock which is kept in the Deb Raja's palace. Presents of ponies, silver, cloth, money, and other articles are made by the Governors, and there is feasting and rejoicing for several days. All the Governors are obliged to obey the Deb Raja. If there be any disobedience, civil war follows.

Administration of justice and punishments—

The Jung-don-yer is Chief Justice of Bhutan; but he and the several Governors are precluded from administering any serious punishment, such as death and flogging, except with the permission of the Deb Raja. There is no written criminal code in Bhutan. The accused is tried by the Governor in whose territory the crime may be committed, and he must be present at his trial. After hearing both sides, the Governor submits a report to the Deb Raja, who makes further enquiry, if necessary, and then orders punishment. For murder and offences against the State, the offender is punished with death and all his property is confiscated. His wife and children become slaves. His hands and legs are tied with cord, and he is thrown alive into the Sankos river. Flogging is administered for falsehood, theft, arson, trespass, hurt, mischief-making, and tale-bearing. Habitual thieves, mischief-makers, and tale-bearers are punished with deprivation of hands or legs, either one hand or one leg, or both hands or both legs, according to the circumstances of the case. Retaliation ("an eye for an eye and a tooth for a tooth") is not acted upon in Bhutan. Generally speaking, justice is administered with severity and caprice. In cases of trespass, theft, &c., the injured person must appeal to the Governor of the country in which he may be residing.

The Bhutias of Buxa—Physically the Bhutias of Buxa are a very fine people. The number of tall men among them is very few; but all are very robust as compared with the people of the plains. The majority have broad, flat faces of the true Mongolian type, small oblique eyes, large mouths, and a light olive complexion; but there are also many dark-skinned Bhutias, whose features are very like the Rajbansi, the only difference between the two being the dress and language. As to darkness of skin, the Bhutias themselves allege that this is due to a fever which is prevalent in Chunabatti and along the foot of the hills. The fever is said to blacken one entirely after the mildest attack. But I have also been told that the dark Bhutias are the offspring of Rajbansi women who were forcibly carried away to Bhutan before the Duars were annexed by the British Government.

The Bhutia village at Ohunabatti—Prior to annexation of the Duars, a Sobah used to remain at Buxa, and he had entire control of that part of the country. The Bhutia village existed just above the present cantonment limits of Buxa; but owing to the filthy habits of the people, it was feared that cholera

would break out and affect the troops, and the village was removed to Chunabatti, about a mile or two west of Buxa, where the Bhutias now remain. This removal was effected under the orders of the Government of Bengal, and compensation was paid to the Bhutias. No measures of a sanitary nature are observed to preserve the health of the village owing to which much sickness always prevails there.

Food—The substances chiefly used as food by the Bhutias are rice, pork, yak's flesh, beef, ducks, fowls, deer, barley, manna, fish, both dried and fresh butter cheese, Indian-corn, and vegetables of all sorts. Oranges, pine-apples, jack, plantains, and other fruit are eaten. Milk is seldom drunk, even by the sick. It is made into butter and cheese. Only cow's milk is used, there being no buffaloes in Bhutan. Goats are kept occasionally, but their milk is not drunk or used for any purpose. There is a marked preference for dried fish, pork, and beef; the latter is often cut into strips and dried, and is used from day to day, especially by the poorer classes. Marrow, whenever obtainable, is used. Bones are broken, and marrow is taken from them and is cooked and eaten with vegetables. Blood is also used as an article of food, especially the blood of pig. It is mixed with meat finely minced, which is made into sausages. Guests at a feast are honoured by giving them a bit of every eatable part of the animal that may be killed. The heart, lungs, entrails—in fact every part except horns, hoof, and teeth—are eaten. In the fourth month of the Bhutia year, corresponding with the Muhammadan Ramzan, some Bhutias, especially those of the Lama class, abstain from eating animal food and also from killing animals, because in that month Buddha was conceived. This, however, is not a general custom. Children are prevented from eating brains and tongues of animals, as it is supposed that they will become too precocious. Women having children are not expected to eat the heart of animals; nor are suckling children allowed to eat the udder of cows. Children are also advised not to eat eggs, because it is believed that they will be unable to stand or walk straight or balance themselves properly. Goat and sheep are eaten very rarely. In families where anybody may be sick from epilepsy or fits, goat and sheep are forbidden altogether, as the meat of these animals is considered to produce such diseases. In families suffering from poverty, wild yams (Ap-su), the root of the tree-fern (Pa-do), and other edible roots are used as food. Betelnut and pan-leaf eaten even by young children, and lime for pan-leaf is stored in a circular brass box called *timi*. Dry tobacco is moistened with country liquor and is eaten with pan. Only very poor people use mustard oil in food; everything is generally cooked in butter or lard. Common country salt is used. Salt is sometimes imported from Bhutan. Cinnamon, cardamon, black pepper, and other spices are used for medicine, but not for food; chilly, garlic, and onions, but not turmeric, are used. Dhunya (*Coriandrum sativum*) is finely chopped up and used in curries as a whet to the appetite. Sugar and honey are eaten.

Food is cooked in copper handis called *sanchun*; also in iron vessels called *sajah*. They are not generally cleaned after use. The oven is called *thup*, and is made of stone covered over with mud. Wood is used for fuel in the *thup*. The cooking is done in a separate room of the dwelling-house, and is performed by men as well as women. Food of men and women are cooked together, and meat is preferred in a half-prepared state. The spoon used for stirring rice, curries, and soups is called *zaru*. The pincers for lifting fire is called *kampo*. Fire is obtained by light-

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ing matches and also from flint, called chama, and steel (doka). Fire is kept constantly alight.

Drinks—Tea is a favourite drink, and is obtained from China through Thibet. It is frequently taken during the day. Only dry brick-tea, called chha, is used. It is thrown into an earthen vessel called chajha, into which some cold water and soda are also put. This is mixed until the tea leaves separate. All is then boiled, and a little butter and salt are put in. When a good dark brown colour is obtained, after about 15 minutes, the whole is poured into a bamboo cylinder called chasu, in which it is then well churned. After this it is emptied out of the chasu into a handi or into an earthen teapot called chambi, through a sieve called chak-chak, and then is drunk in wooden cups called phop. Tea is never drunk or served without some eatable. This may be either parched or boiled rice, generally the latter, which is made into small balls, and thrown into the mouth in that shape. Parched wheat ground called na-phi or na-chum is also often eaten with tea.

Rice-bear, called arra or biachang, is prepared by all the Bhutias for feasts and religious ceremonies (Lhaso). Country liquor is made in the Government outstill, which is worked by a Bhutia woman. This liquor is sold at 4 annas a bottle. Home-brewed liquor is preferred to the outstill arra. The old and young, men and women and even children drink liquor. I have known men to be drunk, but this is very seldom. After a day's hard work, arra or biachang is considered to be very refreshing and invigorating.

Every Bhutia family is allowed by Government to brew biachang up to a limit of four seers. At all feasts the chief drink is tea, but country liquor is obtained from the outstill and also drunk.

Meals—Besides morning tea, there are only two meals during the day—one at midday, and the other at night. Rice is eaten in a small, round basket called pachon; curry or soups are eaten from a wooden cup called phop. Sticks made in the shape of a spoon, called kya-chong, are used only when stews are eaten; but generally fingers are preferred for conveying food from the phop to the mouth. Men, women, and children eat together, and lovers frequently eat out of the same pachon.

The different courses at a feast are :

- 1 Tea, with boiled or parched rice or na-phi.
- 2 Arra, together with some salads, either of radish or cucumber.
- 3 Boiled rice with meats slightly cooked into different dishes.
- 4 Pan-leaf and areca-nut.

Clothing—The women wear a long cloak with loose sleeves called kira or moki, which is tucked on the shoulders with a pin called thunka. They wear a girdle round the waist, which is called kera.

The men wear a loose woolen, or cotton, or endi silk coat called ko. It reaches the knees, and is bound round the waist by a band called kera. The full front of the coat is used as a pocket, in which food, betelnut, and other articles are kept. The men also wear a turban round their heads called thut kera. Both men and women use umbrellas.

Ornaments—The ornaments worn by the Bhutia women are a necklace of corals, turquois, and amber beads. The necklace is called zishe. Earrings are of

silver with amber and turquois, and are called sokong. They also wear bracelets, called dok-chung, which are made of silver and are studded with turquois.

Among men, a sword called patang and a dagger called chengi are always worn. Those who cannot afford to wear a sword always have a dagger. Both men and women carry a knife called kathla, with which they cut betelnut.

Religion—The people are Buddhist, and generally confine themselves to repeating the words Om-Mani-Padme-Hom. They have a small temple of their own at Chunarhatti, at which the Lama offers prayers daily for the people.

While on this subject, I should mention that Rev. Fredrickson of the Swedish Mission and two lady missionaries have lately settled at Chunarhatti for the purpose of opening a mission school there for the Bhutias. Their real object is, I believe, to enter Thibet, if possible, through Buxa.

Customs as to salutation—Among Bhutias salutation differs according to rank. They prostrate themselves before the Dharam and Deb Raja and all high officials of Bhutan. They bow to officers of lower rank, and they greet equals by making a movement as if going to shake hands, but ending by holding up both the hands in front of one and enquiring after each other's health. After long absence, friends meeting express great gladness by embracing each other, and the best of hospitality is shown to guests and strangers. On the meeting of a man and woman, the man is the first to ask a question. The woman answers it. The man assumes the position of a brother or guardian. The woman receives his attentions kindly. The man compliments the woman upon her choice of clothes or any other article which she may have, and gradually ends by praising her face or hands. The woman, if elderly, ends by inviting him to dinner or tea, or, if the woman be a young lady, she expresses pleasure at anything that may be said of her clothes and other things, but objects to her person being praised, and perhaps also says, laughingly—"I cannot hope to be so good looking as other ladies of your acquaintance." Throughout this conversation pan-leaf and areca-nut pass freely between them. Acquaintance thus begun develops into friendship, and should the parties be separated, but meet again, the man always endeavours to have some present for the lady. She also never permits him to go away without inviting him to dinner or tea.

Other customs—The habitual posture in sleep is on the right or left side; seldom on the back. In accouchement the Bhutia woman remains in a half-sitting, half-standing posture. She supports herself by holding a rope which is attached to the ceiling of the room in which she may be at the time of giving birth.

Marriage customs—There is no marriage ceremony among the Bhutias of Buxa. If a man takes a fancy to a woman or girl, he sends a messenger, called Pahmi, to ascertain whether she is willing to live with him or not. She generally agrees to do so, and then goes over to the man's house and lives with him as his wife. If the woman requires a promise in writing that the man will not abandon her, he is obliged to give it. The document given is witnessed by two or three of the headmen of the village, and is written by a Lama or priest. In Buxa both husband and wife take equal pains to earn money by carrying

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loads up and down the hill between Buxa and Santrabari. For each journey up or down each person earns 4 annas. The earnings of a man and woman amount to about 8 annas a day. Sometimes in the cold weather months, when there is a lot of traffic, a woman and man easily earn a rupee a day between them.

Some Bhutias are traders, and these go out to buy and sell. During their absence from home, the wife, after finishing the morning meal and laying up the things, at once begins weaving, and continues this work for three or four hours, when she gets up to cook and have the food ready against her husband's return, which is generally between 3 P.M. and 4 P.M.

Forms of Marriage—There are three or four forms of marriage among the Bhutias; but the simplest one is adopted by the Buxa Bhutias.

Among the lower classes no ceremony is performed; mutual consent and interchange of presents (anything) lead to cohabitation, and this is considered as binding as any ceremony could make the marriage.

Among the well-to-do middle class people in Bhutan something similar to the Hindu marriage ceremony is said to be performed, with this difference that in the beginning the choice of the bride does not rest with the go-between, called *permi*, but with the bridegroom, and that the girl has the option of accepting or rejecting the offer of the bridegroom to marry. If there be no hitch, a nominal price is paid to the bride's parents, a settlement is made on the bride, and the marriage ceremony with the *puja* and feast ensues.

Among the religiously inclined there is a marriage ceremony called *Gav-Nyen-Kyi Dampa* (vows of a moral person), at which a Lama presides. The bride and bridegroom sit side by side. The Lama proceeds to tell them of the good fruits of a moral life and of the evils which result from an immoral life. He mentions the reward to be obtained by keeping their vows and the punishment to be expected by breaking them. He shows them the responsibility they are incurring, and finally enquires whether they still wish him to issue the oath. Being answered in the affirmative, he enquires whether they will be faithful to and satisfied with each other. On their answering in the affirmative again, the Lama advises them to follow certain rules, among which are not to commit adultery, not to indulge in obscene language, nor to be seen in company of people who may use such language, and so on. Then he invokes the blessings of the *Rishis*, *Munis*, and other good spirits on the couple, and further gives them his own blessing. As this ceremony would involve a life of solitude on either of the parties should one of them die, it is not followed in Buxa.

The mutual consent arrangement being considered the simplest and most suitable in Buxa, is followed by the Bhutias there.

Polygamy is permitted, and a Bhutia may have more than one wife. In such a case the first wife is the head wife, and has the privilege of ordering about the second and third wives to do any work, while she herself may remain at ease. All the wives live together, and a man may have as many of them as he can support.

Polyandry is also allowed.

If a woman's husband has brothers, she is looked upon as wife of the brothers also during the hus-

band's absence, and cohabits with them. Before as well as after marriage women have all possible freedom, and are not restricted in any respect. After marriage if a wife be unfaithful or wicked she is turned out and sent back to her parents without any ceremony of divorce; but women are generally good wives when married.

Morals—Right is expressed by *chhup* and wrong by *ma-chhup*. Virtuous by *chho-la kao* and vicious by *dik-chen*. Good (such as a good man) is equivalent to straight, and is expressed by *mi-thang-pu*. Bad (such as a bad man) is *mi-sob*. The Lamas have precepts, and teach the young as to what acts are right and wrong; but children receive no instruction of this nature from their parents. To be brave, daring, truthful, straightforward; to be calm in danger, honest and liberal, hospitable and kind to travellers and strangers, is conduct which is considered admirable. It is thought mean and wicked to be inhospitable, and those who refuse and stint hospitality to travellers are said to become turtles and snails in the next world.

Among young women exposure of the breasts is considered indecent. There are no special rules of decency. Improper signs made with the hands are deemed an insult.

Coarse and filthy conversation is frequently indulged in, but is considered wrong, especially where there are young people. Great license prevails among unmarried people.

Habitations—The houses of the Bhutias are built on stone walls, as also on posts, and are from 8 to 10 feet off the ground. Each house has three rooms, one being used for sleeping in, another for cooking, and the third for storing rice, vegetables, and other articles. The roofs of the houses are made of shingles of any suitable timber that may be obtained, laid over a framework of wood and kept in their places with stones. Thatch grass is also used by many of the Bhutias for roofing their houses.

Domestic animals—The animals found in a Bhutias house are pig, called *phup*; fowls, called *piah*; dogs, called *rokhi*; cows, called *no*; ponies, called *tha*; cats, called *phillu*. Mules are sometimes brought from Thibet. A mule is called *tha*. Thibetans coming into Buxa use sheep and goats as beasts of burden. Pigs are carefully looked after in every homestead, and the leaves of the *kuchoo* plant are cut up, boiled, and given to them.

Games—The games of the Bhutias are archery, called *datcha*, also *doeko*, throwing of flat, round stones; *pangchong*, which is the same as our long jump, and *pung dan*, which is putting the shot. The most popular of these is archery, and some Bhutias are very expert at it.

Among other amusements, they have a dance in which the performers go round in a circle, sometimes holding each other's fingers and at other times following each other, singing all the while. Another dance is that in which all stand in a line and advance and recede three steps, the movement getting quicker by degrees, according to the time of the song. In archery the target is kept at a distance of about 200 or 250 paces, the target being about 3 feet high and 1 foot broad. In *doeko* a wooden pin is driven in the ground about 30 paces from the base line; the flat stones are thrown on the pin.

APPENDIX IV—contd.

Arithmetic—Among Bhutias some count on fingers, beginning with the smaller finger; other count on a necklace of beads called phengbu. Some also use stones and pebbles for counting. They are able to count from 1 to 100, after which counting is begun again from number 1.

Division of the Day—Time is called chu-chu. The day is divided into six parts as follows:

From dawn to 6 A.M.	is called Tolle
„ 6 to 10 A.M.	is called Nin-too
„ 10 to 12 A.M.	is called Ninche
„ 12 to 6 P.M.	is called Ninche eno
„ 6 to 7 P.M.	is called Namso
„ 7 P.M. to dawn	is called Phiru

Morning tea is taken at Tolle, breakfast is taken at Ninche, and dinner at Namso, after which people retire.

Division of the year—The year is divided into 12 months, and there are 30 days in each month. The

months are counted 1st, 2nd, 3rd, and so on. There are seven days in each week, and these are—

Sunday	called Za-nyim
Monday	„ Za-dao
Tuesday	„ Za-mikma
Wednesday	„ Za-hlakha
Thursday	„ Za-purba
Friday	„ Za-pasung
Saturday	„ Za-pumpo

Trade—Besides the articles which are brought into Buxa from Tibet and Bhutan, the Bhutia women of Chumabatti make exceedingly pretty cloth with endi silk and cotton, and exchange this with the kyans of Buxa for rice or any other articles they may require.

The Bhutias also grow turnips, radish, and other country vegetables, which they sell daily in the cantonment market to sepoy of the regiment stationed at Buxa. They also sell eggs, milk, &c., that may be wanted by the officers.

B AGRICULTURAL OPERATIONS

The seasons—The following calendar shows the ordinary round of agricultural work of the year :

No.	NAME OF MONTH	STATE OF AGRICULTURE
	<i>Vernacular</i> 1	<i>English</i> 2
	Chey	March-April
		This is called the "Bahuni Mas". Land is ploughed and prepared for bhadoi paddy and jute, also for haimanti paddy gochibichan or toluabichan (seedlings). Sugarcane cuttings are planted out. Houses are built and thatched. In low lands hoa dhan is sown.
	Bysack	April-May
		House-building continues. Haldi (turmeric) and ginger are planted out. Urur dal is sown. Beda (raking) is done on lands on which jute, bhadoi paddy, and haimanti paddy seedlings have been sown. Jungle and weeds lying in the bhadoi fields are drawn away with the Hachkini.
	Jeyt	May-June
		Khaona-phare or bakra-phare, i.e., the first ploughing of land for haimanti paddy, is done, in order to turn up the soil and soften it. After ten days the land is ploughed again and is then levelled with the moi. In this month haimanti paddy is sown for potabichan. Seed is sown broadcast and comes up in thin stalks. The seedlings are transplanted in bundles of 3 or 4 stalks together.
	Asar	June-July
		Haimanti paddy is steeped in water for three or four days and until it throws out shoots. This is called neochabichan. Land is prepared and the paddy is thrown broadcast over it. In this month, the gochibichan of Cheyt month is transplanted. This transplanting is called "roa gara". Ayles of low lands are made to keep in water. The large black brinjal seedlings are planted out on high land.
	Sravan	July-August
		The pota-bichan of Jeyt month is transplanted. Bhadoi paddy begins ripening and is cut. Tobacco seed is sown in this month in beds carefully prepared for it.
	Bhadro	August-September
		Bhadoi paddy is cut. Neocha-bichan of Asar month is transplanted on high lands whence a crop of jute or bhadoi paddy had been reaped. Jute is cut, steeped, and washed during this month. The steeping of jute is called "pata jagi". Kulti kalai is sown, and lao or white gourd is also put down. Tobacco seed is sown.
	Assin	September-October
		Land is prepared for tobacco and mustard seed and is ploughed twice. Washing of jute continues. Tobacco seedlings are transplanted in Mynaguri and Falakata tahsils. Tobacco seed is sown in Alipur tahsil for seedlings. Gachmarich (chilli) is sown.

APPENDIX IV. *td.*

STATE OF AGRICULTURE

No.	NAME OF MONTH		
	Vernacular 1	English 2	
	Kartik	October-November	In this month tobacco is transplanted in Alipur tahsil. Potatoes, as also garlic and onions, are sown in all tahsils in the spaces between tobacco lines. Ghas-tana, or weeding of tobacco, and loosening the ground round the young plants is done. Mustard and other rabi crops are sown. Chuka and Lapa sag are sown.
	Aughran	November-December	Haimanti paddy ripens, and cutting is begun. Straw is cut for thatching houses. Threshing of the paddy that is cut is done, as it cannot be stacked on account of greenness of the nara (stalks), which rots and injures the paddy if it be stacked. Khesari and musuri kalai, also wheat are sown in this month.
10	Pous	December-January	The entire month is spent in reaping and stacking paddy. Sugarcane is cut.
11	Magh	January-February	Reaping of haimanti paddy continues and the cut paddy is threshed. Sugarcane cutting goes on in Ambari-Falakata and Mynaguri. Land is ploughed, and Cheena and Kauni are sown. Bhadoi paddy is sown by some jotedars of Alipur tahsil. It is called "Maghandari dhan". Onions are planted. In this month, the adhiar pays off the jotedar for all advances made to him, and then often shifts to new lands.
12	Phalgun	February-March	Ploughing begins for jute and bhadoi sowings. All rabi crops, viz., tobacco, mustard seed, onions, ginger, garlic, and pulse, etc., are reaped. Kuchoo and other vegetables are planted out.

C AGRICULTURAL STAPLES

Statistical—The following statement shows the crops grown in the Duars :

DESCRIPTION OF CROP		ACREAGE UNDER CROP		PERCENTAGE	REMARKS
Class 1	English or Vernacular name 2	Acres 3	Dec. 4		
Cereals and Pulses	1 Rice	*164,316	87	79.43	*Out of 164,316 acres, 57,345.36 yield bhadoi paddy and the remaining area yield haimanti dhan.
	2 Takri	2,511	32	1.22	
	3 Kulti	2,269	28	1.10	
	4 Wheat	84	43		
	5 Birnia . . . . .	..	02	
	6 Arahari	220	79		
	7 Khesari	194	85		
	8 Gram	18	50		
	9 Barley	440	66		
	10 Oats	2	98		
	11 Musuri	181	40		
	12 Makai	271	00		
	13 Ghongni . . . . .	..	95	
	14 Marwa	169	44		
	15 Mung	4	61		
	16 Cheena	38	58		
	17 Jenera . . . . .	..	18	
	18 Matar	7	14		
	19 Kauni	72	94		
	20 Gamhiri . . . . .	..	96	
		170,806	88	82.49	
Oilseeds	Mustard	18,715	85	9.05	
	Castor-oil seed	31	28		
	Sargusi	44	31		
	Linseed	100	24		
	Til	206	68		
		19,098	36		

APPENDIX IV—contd.

DESCRIPTION OF CROP		ACREAGE UNDER CROP		PERCENTAGE	REMARKS
Class 1	English or Vernacular name 2	Acres 3	Dec.		
Sugar Fibres	Sugarcane	98	05		·05
	Jute	6,620	33		3·20
	Cotton	254	80		
	Flax	27	64		·15
		6,902	77		
Dyes Drugs and narcotics	Kusum flower . . . . .	..	26		
	Tobacco	7,083	94		3·43
	Orchard and garden produce	1,842	49		
	Miscellaneous non-food crops . . . . .	..	24		
	Mutha	3	74		·91
	Miscellaneous food crops—				
	Paper . . . . .	..	01		
	Jwain . . . . .	..	25		
	Methi . . . . .	..	04		
	Garlic	50	52		
	Onion	70	15		
	Dhuniya	5	35		
	Guamauri . . . . .	..	09		·49
	Salfa . . . . .	..	09		
	Retel leaf . . . . .	..	67		
	Ginger	51	86		
	Potato	656	82		
	Turmeric	16	77		
	Chilli	149	07		
		1,001	69		
Total cropped area in the estate		206,838	42		100·00
Deduct the area cropped more than once		1,205	92		
Net area under cultivation during the year		205,632	50		

Haimanti paddy—Two following kinds of fine paddy are grown, viz., katari-bhog (white), tulapangi, Kaljira, gujari-bhog (white), gujari-bhog (black), boalidar (which makes good chura), das-bhog (black), and kewa-bhog (the rice is fine and the odour is sweet and may be smelt from a long distance, owing to which pig are said to eat it most.)

The following are the coarse kinds of haimanti paddy, viz., dhepi, panisali, koldoma, beto, bochi (red), bochi (black), bochi (white), kharma satiya (this ripens first), aughran depi (ripens same time as satiya), kochu-dala, bogu-jhul, dudh-kalam, panati (red), kakua (has long stems). Totopani sali (grows on high lands), bhadoi pani sali (grows in low land), kasal, malsera (red), malsers (pakri), dang-bonni, of which muri (parched rice) is made, bura bonni, of which muri is made. The rice from bura-bonni paddy becomes a pulp if boiled, and is therefore only eaten fried. If a man suffers from fever, he eats this rice and gets cool. Loha-jang, soul-kungur, pokiraj, bhasha, josna, sonakori, amjhuki, so called because it comes out in a bunch like mangoes, and kati sali (grows and ripened in Kartik month).

Boa paddy is sown in very low lands and jheels. It is sown broadcast in the months of Cheyt and Bysack, and is reaped in the months of Aughran and Pous.

A system of cultivation called batai prevails in pargana Ambari-Falakata. Enda and kakua paddy are sown

broadcast in the month of Bysack, and are reaped in Aughran and Pous. This is done owing to the want of cultivators. Little haimanti paddy is sown.

The different kinds of bhadoi paddy are as follows, viz., Agur-pak which ripens in Asar month; nialaji, which ripens in Sravan month; dhaoli, dholkachi, kasi-panga, khoti, dumra, jamri-bichi (most cultivated), kala-soni, sown only in sandy land. Kacha nenia, chotrool, darika-raj, mamroksani, sewajali, kumri, chengai thukri, neti malsers, noki-bilas (grows with long spikes owing to which pig are said not to eat it), Jamira, which is said to be very heating.

Threshing—Paddy is threshed in the following manner: The bundles of paddy which are brought from the field are opened out and spread in the khoolan (court-yard). Five or six cows, or more if necessary, are driven over the paddy round and round. While the cows are treading the paddy, the stalks are turned over repeatedly with the karali. This is called the ghata-dewa or naradewa operation. The paddy falls off the stalks in about three or four hours. As soon as this is obtained, the straw is removed and stored for use of the cattle, and the paddy is then carefully winnowed and freed from dirt. This operation is called "dhan-hakai". While the threshing work proceeds, the best and fullest stalks of paddy are carefully separated and stored for seed. Paddy is called dhan. Rice is called chaol. Straw is called poal.

APPENDIX IV—contd.

How Haimanti paddy is cultivated—When the land is first ploughed for haimanti paddy, it is called khaona-phare. The ploughing is done only once. The second ploughing is done after a week or ten days. This is called jabor-phare. In the khaona-phare the ploughing is done straight. In the jabor-phare the ploughing is done crossways. After two days the third ploughing is done. This is called the hal-kado or gorao-phare. Two days after this the fourth ploughing is done. This is called kado-kore. When the land is soft puddle, it is called thol-thola mati in Alipur tahsil and kado in the western part of the Duars. Transplanting of seedlings is done when the soil is in this state. Nothing further is necessary till the paddy ripens, when reaping operations begin.

The outturn of haimanti paddy per acre of land ordinarily is from 20 to 25 maunds; but some lands of Mynaguri and Falakata tahsils yield more than this.

How Bhadoi paddy is cultivated—For bhadoi paddy, the land is ploughed six or eight times, and is then levelled with the moi. The weeds are collected and burnt, and the ashes act as manure for the soil. The paddy is then thrown broadcast, and the land is slightly ploughed up twice and again levelled. The paddy germinates within eight or ten days. When it is about 4 inches high, jaoni is done. This consists of running the moi over the field for the purpose of levelling it. The beda (rake) is also taken over the soil for the purpose of loosening it and thinning out the paddy. After this the land is levelled again, and any weed and jungle which may be in the field is removed with the hachkini. The paddy is then allowed to grow. The outturn of bhadoi paddy per acre of land is from 16 to 20 maunds, according to the nature of the soil.

Diseases of paddy are said to be—

- 1 *Panr or Dhulia or Pathkata*—Is a small worm which attacks haimanti paddy and eats the root and stalk. The paddy dies.
- 2 *Nelfa-dhara*—A slime which covers water in fields after seedlings have been transplanted. If ashes be scattered, the slime disappears.
- 3 *Thoga-pore*—Is a disease which prevents the seedlings from throwing out the centre shoot. The plant is said to wither and die.
- 4 *Mangiar*—Is when the plant withers and dies. A small insect is said to eat the plant.
- 5 *Pathan-pora*—Is when wind blows very hard and half the paddy falls.
- 6 *Doma-poil*—When paddy is sown and on the following day rain falls. Germination is affected; the paddy comes up very scantily. This is called doma-poil or ghulai.

TOBACCO

Tobacco (*Nicotiana rustica*)—The best faringati land situated near the homestead of the cultivator is always reserved for this crop. For some time before the seedlings are transplanted the land is continually ploughed and cross-ploughed, the object being to produce a deep, fine tilth, so that the roots of the young seedlings when put in may more readily settle down. The time occupied in preparing a tobacco field is about 24 days, and during this period the land is ploughed about twelve times. All the old and new cattle-droppings and ashes available are placed on different parts of the

field, and are mixed up with the soil in the ploughing operations.

How tobacco is cultivated—Seed is sown in carefully prepared beds in the month of Sravan (July and August). The beds are made on the highest land available, and measure about 3' × 4', in order to avoid doing any damage by having to get on the bed when the seedlings are being removed. After the seed is sown, a little water is scattered over the ground, and then a light layer of straw is put over it to assist germination. The young plants appear in about a fortnight, and are then uncovered, but still sufficiently shaded to obviate injury from rain and too much sun.* Great care is taken of them at this period, because a cricket called "ghugri" often attacks them at night and cuts up large numbers to the annoyance and loss of the cultivator.

Transplanting of seedlings—The seedlings are transplanted in the month of Kartik (October and November), and are placed in gahis or lines about two feet apart. The space between these lines is frequently planted with potatoes, onions, and spinach of sorts, which deprive the tobacco of considerable nourishment which it would have otherwise obtained. No amount of instruction and advice will persuade a jotedar or cultivator to sow his potatoes and onions on other lands. He is too lazy to plough and prepare such lands, and he does not see why he should allow the land between the tobacco lines to remain unoccupied. He has plenty of other land available, but he says: "The tobacco land has given me a lot of work and has taken all my manure, so why should I not make the most of it."

Varieties of tobacco grown—The various kinds of tobacco grown are mentioned below in the order of their market value:—

- 1 *Scndoor-khotua*—The leaf is well-formed, large, and of good flavour. This variety is most grown and is considered the best.
- 2 *Hasti-kani*—The leaf is long and broad, and resembles the ear of an elephant.
- 3 *Harin-gala*—The leaf grows a little away from the main stem, and resembles the neck of a deer. The leaf is long.
- 4 *Moher-gala*—A long narrow leaf.
- 5 *Potua-khol*—Long leaf of medium size.
- 6 *Kadam-dali*—A small, thin leaf grown chiefly in Alipur tahsil.
- 7 *Hamkoo*—Is also called Bilati-tamak (English tobacco). Is very pungent.
- 8 *Ras-patari*—A very small leaf of little value.

Great care necessary in growing tobacco—From time of transplantation of the seedlings to time of reaping the crop the plant is very carefully looked after. During this period about eight days are spent in weeding the field and keeping the soil loose and dry. Water is not allowed to lodge anywhere. At the same time the "agals" or upper shoots of the plant and two or three of the lower leaves are broken off; only the centre leaves—about four to six in all—are permitted to remain. These gradually grow in size till the month of Phalgun (February-March), when they are reaped.

The outturn of tobacco from an acre of land is about 6 to 8 maunds. It would be more if the people

APPENDIX IV—contd.

could be induced to give the plant a better chance of growing. The market value of a maund of tobacco of 90 tolas to a seer is generally about Rs. 6, and has been known to be as much as Rs. 12.

Great damage is frequently done to the tobacco plant by hailstones in the months of January and February, when the leaf is nearly ready for plucking. Often, in a few minutes, all the plants in a field are riddled with large holes and the loss to the cultivator is very great.

Scarecrows are put in tobacco fields. Straw is tied up in the shape of a man, and is fixed to a post in the centre of the field. An earthen handi, with the base turned up and the face of a man painted on it in white chalk, is also often seen hanging on a post. This is done in view of getting people who may pass the field to look on the scarecrows instead of on the tobacco, which they may envy when the leaf is large and attractive.

Tobacco is exported from the Duars into Bhutan and also the Dacca, Calcutta, and other places. The chief markets for sale of tobacco are Dhupguri and Falakata, whence large quantities are taken away during the season.

Diseases of tobacco—The diseases which affect the tobacco crop are—

- 1 *Kadma or chokor dhare*—The leaf whitens and becomes "kokra", i.e., shrivels up. When this occurs the land is found to be too moist. The crop is generally lost.
- 2 *Sildhara or chillia*—The leaf gets spotted and rots. When this is observed, a plough is run through the land by hand, and the soil is turned up to dry. After being exposed to the sun a few days, and when sufficiently dry, the soil is turned back and levelled. If this is not done, the tops of the plants are said to wither and the whole dries up.
- 3 *Dora-dhore*—The dora-poka worm which attacks the roots as well as the leaf. It increases very quickly, and eats the leaves at night. It is said to remain underground during the day. Ashes are scattered on the leaves as the only remedy.

JUTE

Jute (*Corchorus capsularis*)—Prior to the sowing of seed for this crop the land is thoroughly ploughed and cross-ploughed, and this work employs the cultivator about five or six days. On the day on which the seed is to be sown the soil is well turned up with the aid of the plough. Seed is then sown broadcast. One seer of seed generally suffices for each bigha of land, but when land is grassy and weedy, two seers of seed are sown, so that the grass may be killed when the plants come up. After this the land is levelled with the moi. Germination takes place in about eight or ten days. When the plant is about four fingers high and has about four or five leaves, the jungle which may have come up in the field is cleared with the help of large beda (rake), which also thins out the jute plants. After this the "hachkini" (a smaller rake) is drawn across the field from one side to the other and again in an opposite direction. This is called "kaki-dewa" (combing). Should any more jungle appear, or the growing jute be too thick, the process of thinning out is done by hand with the dowki. This weeding of

jungle is called "neli-dewa" and the thinning out of the jute is called "Patabachon". After this the plant is allowed to grow.

How jute is cut and how the fibre is extracted—

By the month of Bhadro (August and September) the jute is from 6 to 10 feet high, and is then ready for the sickle. It is cut and bound up in bundles of 40, or 50, or more, according to size, and is tied on the top just below the leaves with a grass dhaka (grass rope). These bundles are called "patar thar". After this the thars are laid on the ground, one over the other. First four thars are put, then four more are put over the first four, but a little below their leaves; then four more thars are put over the second four, and so on till all the jute is cut. The next process is removing the thars to a piece of high land. They are laid here one over the other. First one thar, then a second thar with its leaf end towards the lower end of the first thar, and so on. The next process is covering the thars with straw of bhadoi paddy, the heat from which soon makes the jute leaves in the thars fade. After three days the straw is removed and the jute leaves are shaken off. Then the thars are taken to some shallow, still water, and are steeped in the position in which they had been covered over with straw. This is called the "aghal-gor" way. The steeping being accomplished, a mixture of cow dropping and water is thrown over the jute for the purpose of heating it, and then all the short, useless stalks of jute which had been pulled out of the field at time of cutting are put over the steeped jute. Lumps of earth are then placed in the four corners and on the sides, and this weight causes the jute to sink below the surface of the water. In this position the thars remain for about three weeks or a month. When the bark separates and the stalk and fibres become softened, they are taken up and untied; they are then broken off two feet from the bottom, the bark is held in both hands, and the stalks are taken off. The fibres are then exposed to the sun to be dried, and after being cleaned are considered fit for the market.

Jute which is cut in the beginning of Bhadro month becomes fit for washing in about 15 or 20 days; that which is cut at the end of Bhadro takes a longer time. The outturn of jute per acre of land is from 9 to 16 maunds according to rainfall and nature of soil.

Varieties of jute grown—The various kinds of jute grown in the Duars are as follows:

- 1 *Mesta-pata (called heotia-pata)*—Is white. The leaves are circular, and the stalk, when fully grown, is from 6 to 9 cubits in length. The fibre is soft and silky and much sought after.
- 2 *Sada-pata (called bhadia-pata)*—Is white. The leaves are long, much like neem leaves. The fibre is of a grey colour, and of as good quality as mesta-pata, owing to which it is in great demand.
- 3 *Marua (called heotia-pata)*—Grows to a length of about 8 or 10 feet. The fibre is long and white, and fetches the highest price. Good gunny cloth is made from it. Cultivation of this jute is troublesome because of its thorns, which hurt the hand at time of washing. When washed, the bark is drawn from the stalk from the top end, instead of from the bottom, as in other jute.
- 4 *Meg nal (called heotia-pata)*—This variety of jute grows to a height of from 6 to 10 feet, and is universally cultivated. The colour of the stalk and fibre is reddish. A fair price is always obtained for it.

APPENDIX IV—contd.

- 5 *Gopal bhog*—Is small and is used chiefly as a vegetable. It is white in colour and yields no fibre. The seed forms in Jeyt month.
- 6 *Chillia*—Is a short variety and is used only as a vegetable. It gives no fibre. Seed forms in Jeyt month.
- 7 *Bamachak-pata*—The stalk is red and the best fibre is obtained from it. The seed forms in Kartik month.

Use of the jute stalk—Sinna or sinja is the stalk after the bark has been removed. The lower part of it is used for fuel; the upper portion is utilized for fences for protection of crops of tobacco, vegetables, potatoes, etc., which are grown near a homestead. The sinna is divided equally between the jotedar and the adhiar.

The principal markets for sale of jute in the Duars are Barnes hat, Domohoni, Chengmari, and Kyranthi hats, Mullick hat, Ramsai hat, Nao-thoa hat, Dhupguri and Falakata markets and Silli-Toorsa hat.

The area of land under jute as ascertained by the present survey is 6,620.33 acres. The crop is cultivated most in the Mynaguri tahsil; in pargana Moraghat, Falakata tahsil; in pargana East Madari, Alipur tahsil, and in pargana Ambari-Falakata, where the best jute of all is grown.

SUGARCANE

Sugarcane (*Saccharum officinarum*)—Is called kushiar by the people of the Western Duars. It is not grown as a crop at all in the Falakata, Alipur, and Bhalka tahsils, nor is it seen in pargana North Mynaguri. It is cultivated in about half a dozen jotes of parganas Chengmari and South Mynaguri, and also in pargana Ambari-Falakata, where it gives the cultivator the best returns for his labour.

The season for planting is the months of Phalgun and Cheyt (February and March), the chief requisites being thorough ploughing of the soil, much manuring, and careful removal of weeds. Artificial watering is not resorted to, as there is always sufficient moisture in the land.

How sugarcane is cultivated—The process of cultivation is this: The land is first well ploughed and cross-ploughed for about ten days, after which it is levelled with the moi. After this, a plough is run in straight lines, and furrows are made about 2 feet apart. This is called "ghostana". Then the upper part of the kushiar, i.e., the agal, which is called the pooli (seedling), is put into the ground at a distance of about 18 inches apart one from the other. Earth is then placed over the lower end of the pooli, and is lightly pressed down with the hand or trod over with the foot. In about 15 or 20 days the shoots appear, and the land is then weeded with the dowki or passon (weeder). This weeding is called the kamai, and goes on every eight or ten days till the plant is about 2 feet high, when it is earthed over at the base in order to prevent excessive water from lodging among the roots. By about August or September the cane is from 3 to 5 feet high, and each shoot, the produce of every cutting, contains from three to six canes. These are tied together in twos or threes with the lower leaves which are stript from the cane. About 15 or 20 days after this the same tying operation is repeated. The tying is done lightly, else the free circulation of air would be impeded and be hurtful. In

January and February, viz., about ten or eleven months from the time they are planted, the cane, when stript of its leaves and the top cut off, is about as thick as a good stout walking cane, and from 6 to 8 feet long. It is then cut and put through the Behea mills for the purpose of expressing the juice. These mills are hired in Ambari-Falakata at Re. 1 a day. The juice falls from the mills into an earthen powna (tub), whence it is poured into a large iron karai (an open boiler), which is placed over a fire. In this vessel the juice is kept boiling for eight or ten hours until it attains sufficient thickness, after which it is poured, while hot, into earthen "thilas or nagris" (jars), in which it cools. At this stage it becomes a dark-coloured, soft, viscid mass called gur. After a day or two, and when all juice-expressing operation is finished, and it is desired to make sugar, the gur, which is then in a liquid state, is poured from the thilas into the karai, and is well boiled over a slow fire. In this operation all the scum which rises is removed and kept in separate "thilas". It is called "myla gur" or "tamakoo maka," and is used for preparing tobacco which is smoked by the natives.

The process of making sugar—The refined gur is poured back from the karai into the thilas. After this, two bamboo bars are tied parallel to each other inside the house where the gur had been made, and are kept about four feet off the ground. Pownas (earthen tubs) are placed on this platform according to the number that may be wanted, and a hole is made in the centre of the base of each of them. The hole is plugged with cloth or grass. The refined gur is then poured from the "thilas" into the pownas, and is allowed to remain open for eight days, after which each powna is carefully covered over with pana-khar (a weed obtained in small streams), and the plug below the powna is then removed. Seven days more are allowed to pass, and during this period the liquid gur or molasses, which is called "madh gur," drips through the hole into a vessel below, and only the portion that may be crystallized remains above. This crystallized portion, which is made white and pure by the pana-khar (probably *Vallisneria spiralis* or *Hydrilla verticillata*), as the moisture from it drains slowly through the sugar and carries with it the dark-coloured molasses, is taken off daily from the powna, until the whole mass is refined. It is kept on mats and dried in the sun. The sugar thus prepared is called "chini", and is purchased by the people in the local markets at from 4 annas to 6 annas a seer. The whole of the sugar manufactured in the district is consumed here, none is exported.

A too wet season is injurious to sugarcane, as the quantity of saccharine juice is diminished, and this is one of the reasons why the crop is not more largely cultivated in the damp climate of the Western Duars. The crop suffers much in Ambari-Falakata and Chengmari from the depredations of wild pig and jackals, besides caterpillars and worms. White ants are also very destructive.

The varieties of sugarcane grown—The sugarcane cultivated in the Duars is of the following kinds:

1st—*Rangi or kajali, or purple-coloured cane*—Is eaten and is also made into gur. It yields plenty of juice, but the quantity of sugar obtained from it is small.

2nd—*Shahchan or black-coloured cane*—Is cultivated very little, as the process of cultivation is troublesome. It is cut up and sold in the markets.

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3rd—Kheri or light-coloured cane—Is thin, and yields a lot of juice from which much sugar and gur are obtained. Is not eaten. Is grown only for its juice.

4th—Dhol Soondar or yellow cane—Is of medium size, and is cut up and sold in the markets.

5th—Mugi or white cane—Is thick, and yields a lot of juice, which makes good sugar.

Manure used for sugarcane—Cattle droppings are dried and burnt. The ashes are used in the fields as manure.

Cost of cultivation—From several statements before me, I give that of a jotedar of Ambari-Falakata cultivating 1.66 acre of land with sugarcane. His outgoings and returns are as follows :

Outgoings

	Rs.	A.	P.
Pay of servants for cultivation of sugarcane	24	0	0
Building	12	0	0
Boiler	13	0	0
Fuel	20	0	0
Iron spoon	0	8	0
200 earthen pots (handis)	25	0	0
50 earthen pans (pownas)	25	0	0
Wages of four men for 2½ months at Rs. 6 each a month	60	0	0
Cost of extracting juice from sugarcane	60	0	0
Rent of 1.66 acre of faringati land at Rs. 1-2 per acre	1	14	0
Cess for the same	0	2	0
Total	241	8	0

Returns

	Rs.	A.	P.
Price of 30 maunds of sugar at Rs. 8 per maund	240	0	0
Price of refuse or gur, 20 maunds at Rs. 4 per maund	80	0	0
Total	320	0	0
Deduct expenditure	241	8	0
Net profit	78	8	0

MUSTARD

Mustard (*Brassica juncea*)—Mustard seed is called sarsia. The cultivation of this crop gives little trouble. The land is ploughed and cross ploughed about five or six times. The seed is sown broadcast, and germinates in about three or four days. If it be very thick in any part, some of the plants are pulled up and cooked as a vegetable. Four seers of seed are sown in each acre of land. The outturn per acre is from 9 to 10 maunds.

The varieties of mustard seed are :

- 1 *Tora or scwa*—The plant is thick and grows to a height of about 3 feet. The seed is very pungent and large. It is generally sown for providing a vegetable.
- 2 *Aye (Rye)*—The grain is yellow. The leaf is eaten by Meches and Rajbansis.
- 3 *Jati sarsia*—Is the common mustard, and is grown for the purpose of expressing oil.

Use of the Mustard stalk—The stalk of the sarsia plant is called "dera". After being reaped, the mustard is laid on a clean spot in the field or in the khoonla

(courtyard), and is then tread by cattle in the same manner as paddy is threshed. This is called the "mara mare". After this the stalk is separated from the grain and is burnt. The ashes are stored and used for making cheka when salt is not available. They are also used for washing clothes.

Barley (*Hordeum hexastichum*)—Is called payrah, and is sown on high land which is well manured with ashes and cattle droppings. About 12 to 15 seers of seed are sown in each acre of land, and the outturn is about 7 or 8 maunds per acre. The land is ploughed about five or six times.

WHEAT

Wheat (*Triticum Sativum*) is called gom—Is sown in the month of Kartik on high land which is well manured, and is reaped in Falgun. The crop does not succeed, as the soil is considered to be too moist. From 9 to 10 seers of seed are sown per acre of land, and the outturn is from 3 to 5 maunds.

Kauni (*Panicum Italicum*)—Is sown on high land which is ploughed from six to eight times. Three seers of seed are sown per acre of land, and the outturn is about 24 seers per acre.

Cheena (*Panicum millaceum*)—Is sown in low lands in the month of Pous, and is reaped in Jeyt month. Is eaten in place of rice and often with rice. About 20 or 25 seers of seed are sown per acre of land, and the outturn is about 16 or 18 maunds.

COTTON

Cotton (*Gossypium herbaceum*)—This crop is grown chiefly by the Garos and Meches in high lands, and among grass jungle towards the foot of the Bhutan hills. West of the Jaldacca river, the plant is not seen all now, owing to the opening of tea gardens, and very soon it may disappear altogether, as tea is taking its place all along the northern part of the Duars.

How cotton is cultivated by Garos—Cotton is called Foon by the Garos and Khun by the Meches. The process of cultivation is this : The Garos, men and women, select a suitable piece of land and clear the place of jungle with their gogo (straight bill-hooks). All small trees, twigs, and branches of trees which may be cut are allowed to remain on the ground and dry for about 10 or 15 days. After this the whole is set on fire and well burnt. The ashes remain, and this is the only manure used. Foon-kar (cotton seed) is scattered over the ashes. It is kept in a foonkar hak (small, oblong bamboo basket), in which there are several small openings or holes. By shaking the basket the seed falls on the ground. On the same day bhadoi paddy is sown in the same field. It is taken in the left hand. An iron bhao (rake) is kept in the right hand. With this instrument the ground is scraped (this operation is called ha-girni), and as the soil turns up, bhadoi paddy is scattered thereon with the left hand, and is allowed to remain in this state about a month. The cotton plant and bhadoi paddy grow together. Any jungle which may come up is cut down by the men and women with the gogo. The seed of both plants is sown in the months of Cheyt and Bysack. The paddy is ripe for cutting in the month of Bhadro. As soon as ripe, a small basket called mamet is worn over the left side by both men and women, and they jointly reap the paddy. Only the ears of the paddy are cut, and this is done with a kangka (sickle). The ear of the paddy is called mygang. As soon as the

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mamet is filled, the paddy is poured into a larger basket called hokdam. Each man and woman takes a mamet and a kangka to the field. At the end of the day the hokdam is placed on the back and carried home. It is supported on the back by two ropes which pass under the arms of the person who conveys it. On the reaping of paddy being completed, and makap (stem and straw of the plant) is cut and is allowed to rot. At this time the cotton plant is about three feet high and in flower. The flower is called Foon-jeli. Any jungle that may come up is weeded. This weeding is called hamoungniga. The Foon-tai (cotton pods) begin to burst in Aughran, and the cotton is reaped in Magh and Falgun. The bursting of the pods is called "foon-pratao."

The varieties of cotton grown—There are two kinds of cotton, viz.,—

The white cotton called foon bolang

The brown variety called foon kisiri.

How cotton is cultivated by Meches—Among Meches the process of cultivation is as follows: The jungle is cleared by men with the dao, and is allowed to dry for about 10 or 12 days, when it is fired, the ashes being used as manure. Then some men who have previously made sharp pointed bamboo sticks, each being about 5 feet in length, strike the ground with them, and make holes all over the field about two inches in depth. Other men take the cotton seed and rub it up well on the ground with a little water. By this operation the hairs on the seed are worn off, and the seed can be sown with facility. After this, two or three seeds are placed in each hole, which is then left uncovered. The seed germinates in about three or four days. When the plant is about two feet high, any jungle in the field is cleared and weeded with the dao and allowed to rot on the ground. This weeding is done in the beginning of Asar, and is called "samdangni". When the plant is about four feet high, a second "samdangni" operation is performed. This is called the "do-nika sam", and is done in Assin month. The pods ripen and burst in Aughran and Pous months. The bursting of the pods is called "khun-bed bai". The white cotton is called khun-gofut. The brown variety is called khun-gomu.

AGRICULTURAL APPLIANCES

Agricultural Implements—The following is a list of the agricultural implements used by Rajbansis, Muham-madans, Dobasiyas, and Meches:

Serial No.	Vernacular name	How used
1	2	3
1	Batal	Chisel for making holes in wood.
2	Basila	Hatchet for cutting bamboos
3	Beda	Large rake for weeding; is drawn by bullocks.

Serial No.	Vernacular name	How used
1	2	
4	Chopro	Wooden sandals worn with strings to prevent feet from being cut by jungle.
5	Dao	Bill-hook for splitting bamboos.
6	Dowki Passon	Rake for weeding.
7	Hachkini	Small rake for weeding; is drawn by hand.
8	Hasua Dao	Bill-hook for cutting jute.
9	Ish	The plough pole.
10	Jongal	Yoke.
11	Jutki	Rope for tying cattle to the yoke.
12	Kachi Dao	Sickle for reaping paddy.
13	Katari	Knife for cutting betelnut.
14	Karali	The crooked hook for threshing.
15	Khontha	Iron pole for making holes in ground.
16	Kokoi Nangol	A large plough in which the share is fixed to the heel of the plough with two iron pegs instead of with a piece of wood.
17	Kodal	Spade for turning up earth.
18	Kursi	Mallet for breaking up clods of earth.
19	Kora	Bamboo pole for removing paddy from fields after reaping.
20	Kural	Hatchet for splitting wood.
21	Moi	Bamboo steps for levelling land.
22	Moiram or Danta	The bamboo shafts tied to the moi to keep the bullocks in position.
23	Nengra	Rope for fixing yoke to plough pole.
24	Patas	Stick for fixing yoke to plough
25	Penti	Do. for driving bullocks.
26	Phal	The share.
27	Pholia Nangol	A small bamboo plough used only on soft soil. The share is made of bamboo.
28	Phalua Nangol	A medium size plough. The share of iron is secured to the heel of the plough with a piece of wood. This and the kokoi nangol are used most for breaking jungle.
29	Pochi	Wood for securing share to plough.

APPENDIX V

LIST OF TALUKS IN THE WESTERN DUARS

[EXTRACTS FROM D. H. E. SUNDER'S SETTLEMENT REPORT]

The following list will provide much material of historical, land revenue and toponomic interest:

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
1	Mynaguri	Chengmari	Totogaon	Toto=a people and gaon=a village. The taluk is named after the Totos who used to reside here. The soil is composed of sand and clay, the former predominating. The cultivators here are Paharias, Oraons and a few Meches. The crops grown are paddy, Indian corn and Marua. The south-western portion of the taluk is liable to injury by the Tista river.
	Ditto	Ditto	Saogaon Fulbari	Sao is the name of a Mech, Gaon = village, tul = flower, bari = place. The place in which Saon Mech resided. Fulbari a place which was first visited by a Kubirpanthi Sanyasi who surrounded his homestead with flower trees. Some of the best paddy lands in the Duars are contained in this taluk. Crops are not liable to injury by wild animals; but the Ghish river has deluviated some land on the east of the taluk. Most of the cultivators are Oraons and Meches; a few are Rajbansis and Paharias. The crops grown are paddy, Marua and Indian corn.
3	Ditto	Ditto	Udlabari	Udla=a tree the bark of which yields a good fibre, bari=place. The taluk was named after the tree. The cultivators here are Meches, Oraons, Muhammadans, Paharias and a few Rajbansis who grow paddy and Indian corn and also a little jute. The crops of jots on south-east of the taluk are sometimes injured by wild pigs which come from the Aphal Chand Reserve Forest.
4	Ditto	Ditto	Haskhali	Has = duck, khali = lake. There is a bil of this name in the taluk which used to be visited by large number of ducks annually. The soil is rich and the land is suitable for all crops; but injury is done by wild elephants and pig which come from the Aphal Chand Reserve Forest.
5	Ditto	Ditto	Rajadanga	Raja = King, danga = high land. The piece of land where Rajas used to pitch their camp when out shooting. A Raja's high land. The taluk has the best soil in Pargana Chengmari and land contained in it has highest value. Hence the name. The cultivators here are Muhammadans and Rajbansis. The former predominate. There are also a few Oraons and Meches. The crops grown are paddy, jute, mustard-seed, tobacco and sugarcane. The outturn of paddy per acre is said to exceed 25 maunds in places in favourable years. No injury is done to crops by wild animals.
	Ditto	Ditto	Chengmari	Cheng = a kind of fish, mari = to be had. The taluk where Cheng fish used to be found. The soil is a sandy loam well suited for paddy and jute. These are the chief crops grown by the jotedars most of whom are Muhammadans. The Chengmari forest lies to the west of the taluk and injury is done to crops by wild pig on jotes situated on the western part of the taluk.
	Ditto	Ditto	Jhar Majgaon	Jhar = jungle, maj = middle, Gaon = village. This taluk is situated in the centre of Pargana Chengmari and formerly covered with jungle. Hence the name. The jotedars are chiefly Muhammadans. The soil is good loam made up of fine clay and sand. The crops grown are chiefly paddy and jute. No injury is done by wild animals.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
	1			
	Mynaguri	Chengmari	Majgaon	Maj = middle, Gaon = village. This taluk and the one preceding it lie in the centre of the pargana Chengmari, hence the name. The crops grown are paddy, jute and some sugarcane. The cultivators are chiefly Muhammadans. It is a highly cultivated taluk, and crops do not suffer from ravage by wild animals.
	Ditto	Ditto	Dolaigaon	Dolai or Dohala = low, swampy place full of clay. Gaon = village. The land in this taluk is low and chiefly grows Haimanti paddy, of which good crops are obtained. Most of the cultivators are Muhammadans. Jute and a little tobacco are grown on the high lands. No injury is done to crops by wild animals as the taluk is well under cultivation.
10	Ditto	Ditto	Khalpara	Khal = canal, para = village. A taluk where people resided on the banks of a khal which formerly existed, but has now silted up. The soil here is more clayey than sandy. Good returns are obtained from jute and paddy land. The taluk is entirely cultivated, and no injury is done to crops by wild animals. The cultivators are chiefly Muhammadans.
11	Ditto	Ditto	Saripakri	Sari = Row or line; Pakri = a kind of tree (<i>Ficus Cordifolia</i>). There used to be a row of this tree on each side of the road passing through this taluk, hence the name. The land is well cultivated. Injury is occasionally done to crops on a few jotes by pig which come from Kyranti reserved forest. The soil is a sandy loam. The cultivators are Muhammadans and Rajbansis, more of the former. The chief crops grown are paddy and jute.
12	Ditto	Ditto	Chapadanga	Chapa = lumps of earth, danga = high land. Lumps or mounds of earth formerly existed in this taluk, which obtains its name from them. It is well cultivated and the soil, which is a mixture of clay and sand, yields the cultivators good crops of paddy and jute. No injury is done to crops by wild animals. The cultivators are Muhammadans and Rajbansis, I think equally divided.
13	Ditto	Ditto	Sengapara	Senga = name of a man, para means basti. Senga Das was the headman of the taluk which therefore obtains its name from him. The cultivators in this taluk are chiefly Rajbansis. The crops grown are paddy and jute. The soil is a sandy loam. No injury is done to crop by wild animals.
14	Ditto	Ditto	Premgunge	A man named Prem Das started a market here, hence the name. Gunge means market. Much injury has been done to the taluk by the action of the Tista river, which has diluviated many jotes and silted other over with sand. The cultivators are chiefly Muhammadans. The crops grown are paddy and jute.
15	Ditto	Ditto	Basusu	Basu = to rest, Suba = headman. The taluk where the Bhutia Subahs used to rest or halt before the Duars were annexed. The soil is more sandy than clayey. The Tista river has done much injury to the jotes. The crops grown are paddy and jute. The cultivators are chiefly Muhammadans.
16	Ditto	Ditto	Moamari	Moa is the name of a fish which used to be found in ponds here, hence the name of the taluk. The western part of the taluk has been injured by action of the Tista river. The eastern part contains good paddy and jute land. These are the crops grown by the cultivators who are Rajbansis and Muhammadans.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3	4	
1	Mynaguri	North Mynaguri	Dam-Dim	The story goes that the taluk was originally called "Dham-Dham" which indicates the sound obtained by beating of a drum. The name has been changed to Dam-Dim since the Duars were annexed by the British Government. The cultivators here are Oraons, Meches, Muhammadans and Rajbansis. The Bengal Duars Railway Dam-Dim station is here. The entire taluk is under cultivation and is surrounded by tea gardens. The crops grown here are paddy and Indian corn.
	Ditto	Ditto	Hai-Haipathar	The meaning of this word is "Alas, alas, what a road" The taluk is a large one and formerly was sparsely populated. It was also infested by wild animals. Water could not be easily obtained here. People are always afraid of travel through the taluk, and used to express their fear by use of the word "Hai-Hai" meaning alas, alas. The taluk is entirely under cultivation. The jotedars are chiefly Muhammadans who have come from Rangpur, Baikantpur and other places. The Bengal Duars Railway runs through it. The important Bataigol market is in this taluk. The crops chiefly grown are paddy and jute. The soil is more sandy than clayey. The cultivators are Muhammadans, Meches and Rajbansis.
3	Ditto	Chengmari	Kharia bandar	Kharia = name of a man, Bandar = market. There used to be a market in this taluk. It was started by Kharia Das, who kept buffaloes, and used to sell buffalo milk and curd. The taluk is named after him. The taluk contains somewhat poor soil. The crops are injured by wild pigs which come from adjoining forests. The crops grown are chiefly paddy and mustard seed. The cultivators are Meches, Rajbansis and some Muhammadans.
4	Ditto	Ditto	Dhup jhora	Dhup = incense, jhora = stream. The taluk obtains its name from a jhora or stream on the banks of which a tree yielding a kind of fragrant resin used to grow. The land in this taluk is low and the soil good loam, but being near the Tandu forest much damage is done to crops by wild elephants and pigs. The cultivators are Muhammadans, Meches and Rajbansis.
5	Ditto	Ditto	Barodighi	Baro = twelve, dighi = tank. A taluk in which there existed 12 tanks. These have silted up and little trace of them is left. Nearly all the jotes here are owned by Muhammadans. The soil is a loam with more sand than clay. The Chel river sometimes inundates a portion of the western part of the taluk. The crops grown are chiefly paddy and jute. Crops are injured by wild pig and elephants.
	Ditto	Ditto	Kantadighi Kumarpara	Kanta = name of a man, dighi = tank, Kumar = potter, para = village. Hence a taluk in which a tank was excavated by Kanto Das and where potters used to reside. The soil is a rich clay from which good paddy and jute crops are obtained. The jotedars are Muhammadans and Rajbansis, also a few Oraons.
	Ditto	North Mynaguri	Jhar Matiali	Jhar means jungle, matiali means soil in which there is much rich clay, hence Jhar Matiali means a tract of land covered with jungle, and the soil of which has much good clay in it. The taluk adjoins the Tandu forest, whence pigs come and injure crops which are on the eastern part of the taluk. The Bengal Duars Railway passes through the taluk. Two markets are held here weekly. The cultivators are Muhammadans and Rajbansis, and they grow paddy and jute. The Neora tea estate is on the west of the taluk.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3	4	
2	Mynaguri	North Mynaguri	Matiali	Matiali means soil in which there is much good clay. The Bengal Duars Railway runs through the taluk and Lataguri station is situated in it. The land is well cultivated and the jotedars are chiefly Muhammadans who obtain good crops of paddy and jute from it. Wild pig come from Tandu forest and injure crops on the northern part of the taluk. Clay of this taluk and the preceding one is used by potters for making cooking and water vessels.
3	Ditto	South Mynaguri	Jhar Baragila	Jhar = jungle, bara = a kind of seed generally round and about half an inch thick and one or two inches in length. It is found in the capsules of the pods of a kind of a creeper. The kernel of the seed is used in marriage or other ceremonies for purifying the body. The entire seed is used by Dhobies for making ruffles in the borders of clothing. The name of the taluk means that the gila creeper used to be found in the jungles here. The soil is sandy and damp. The crops grown are paddy and jute but much injury is done to them on the northern border by wild pigs which come from the Tandu forest. The Bengal Duars Railway, Ramshai Hat, station is in this taluk. Most of the cultivators are Rajbansis. The taluk is well cultivated with paddy and jute. Ramshai hat and Altadangi markets are in this taluk.
4	Ditto	Ditto	Barogila East	So called because this taluk is situated to the east of taluk Jhar Baragila. It is well under cultivation with paddy and jute. The cultivators are chiefly Rajbansis. The soil is an equal division of sand and clay. No injury is done to crops by wild animals.
5	Ditto	Ditto	Betgara	Bet = canes, Gara = low-land or pond. The doba in which canes used to grow. There is also a bheel of the same name (Betgara) in this taluk. This taluk is known as the garden of Mynaguri Tahsil because many of the jotes in it have splendid groves of betelnut trees, which give the jotedars handsome profits. The soil is rich, clayey and sandy, from which good crops of jute and paddy are obtained. The cultivators are chiefly Rajbansis. It is the best taluk of South Mynaguri and land is most valuable here.
6	Ditto	Ditto	Chapgar	Chap = thick, gar = fort. A fort which formerly existed here had thick posts round it. There are some good groves of betelnut trees here. The soil is a sandy loam. The cultivators are chiefly Rajbansis. Amguri Government market is in the taluk. The Jalpaiguri-Nagrakata road runs through it. The crops chiefly grown are paddy and jute.
7	Ditto	Ditto	Baragila West	This taluk is situated to the west of taluk Jhar Baraglia. The soil is a blackish loam which is said to be not very favourable to crops. Potters make earthen vessels from it. The cultivators are chiefly Rajbansis who grow jute and paddy. The taluk is well under the plough.
8	Ditto	Ditto	Banglar Jhar	The deity Bangala is believed to remain in this taluk. His shrine is in the middle of a jhar or jungle; hence the taluk obtains the name of "Banglar Jhar." The soil is fine black loam composed of sand and clay. Potters make earthen pots here. The cultivators are chiefly Rajbansis who grow paddy, jute and other minor crops.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
	1	2	3	
9	Mynaguri	South Mynaguri	Singimari	Sing= a kind of fish, mari means to be obtained. There is a deosthan (seat of a deity) of the same name (Singimari) in the taluk. There was also a bhil of the same name which has now silted up and become rupit land; the people used to worship the deity Singimari prior to catching fish in the bhil in order that the fish may not injure them with its spikes; hence the taluk has derived the name of Singimari. The soil is a clayey loam well suited for paddy and jute which grow luxuriantly here. The cultivators are Rajbansis and Muhammadans. The taluk is well under the plough.
10	Ditto	Ditto	Boulbari	Boul=a kind of tree, bari=homestead, place or garden. Boulbari means a place where there were baul trees. The Bengal Duars Railway passes through this taluk. The soil is good sandy loam. The cultivators are Rajbansis and Muhammadans. The crops grown are paddy and jute.
11	Ditto	Ditto	Bidurerdanga	Called after Bidur Das who first settled in this taluk. Danga means high land; hence high land where Bidur used to reside. The soil is a sandy loam, growing good crops of paddy and jute. The cultivators are Muhammadans and Rajbansis.
12	Ditto	Ditto	Chatrarpar	There is a bhil of the same name (Chatra or Chatrar bhil) par=bank. The culturable or habitable land in the taluk is about the banks of the bhil; hence the taluk is known by the name of Chatrarpar. The soil is a sandy loam. The crops chiefly grown are paddy and jute. The cultivators are Muhammadans and Rajbansis.
13	Ditto	Ditto	Domohoni	Do = two, mohoni = mouths, i.e., the place where the mouths of two rivers have joined and made one river; hence the taluk has derived its name Domohini. The Chel river falls into the Tista river at this taluk. The Domohini market and Domohini station of Bengal Duars Railway are in this taluk. The soil is a sandy loam from which the cultivators who are chiefly Rajbansis, obtain good crops.
14	Ditto	Ditto	Katalbari	Katal = jack fruit tree, bari=place or garden. The taluk in which there were katal trees. Many jack fruit trees still exist in the taluk. The cultivators here are Muhammadans and Rajbansis. The soil is a sandy loam which grows good crops of jute and paddy.
15	Ditto	Ditto	Moamari	Moa a kind of fish which used to be obtained in ponds of this taluk. Hence the name Moamari. The soil is a sandy loam. The taluk is entirely under cultivation and adjoins several good roads leading to Jalpaiguri, and all markets. The cultivators are chiefly Rajbansis who grow paddy and jute. The Mynaguri market is near the taluk.
16	Ditto	Ditto	Bagjan	Bag = tiger, jan = a canal. A canal in which tigers used to drink water. There is also a stream called Bagjan in the taluk, hence the name Bagjan. The cultivators are Rajbansis and Muhammadans. The soil is a sandy loam. The crops grown are paddy and jute with a little tobacco.
17	Ditto	Ditto	Bengkandi	Beng = frog, kandi = cries. There are many dobas and tanks in this taluk, and frogs used to make a great noise in them to the annoyance of the people who first settled in the taluk, hence the name Bengkandi. The western portion of the taluk contains good paddy land. The eastern half is high land in which crop do not grow very luxuriantly. Most of the cultivators are Muhammadans. The crops grown are paddy, jute and some tobacco.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
18	Mynaguri	South Mynaguri	Khagrabari	Khagra = a kind of grass, bari = place. The taluk was covered with Khagra, hence the name Khagrabari. There are some very good jotes on the southern half of this taluk. The soil is a loam mixed with fine particles of clay and sand. The north-eastern part of the taluk contains high land of little value to the cultivator. Paddy and jute are the principal crops grown here. The jotedars are chiefly Rajbansis.
19	Ditto	Ditto	Dwarkamari	Dwarika = a kind of fish, mari = to be had, caught or killed. This taluk has a river of the same name in which dwarika used to be caught in large numbers, hence the name. The soil is very good loam from which splendid crops of paddy and jute are obtained. The land is low and favourable in the cultivation of paddy. Most of the jotedars are Rajbansis. Hasilerdanga bi-weekly market is in this taluk.
20	Ditto	Ditto	Churabandar	Chura = crown, bandar = place. It is said that a crown which was over the temple of Jalpeswar was blown into the taluk during a storm; hence the taluk is known by the name of Churabandar. The soil of this taluk is very rich, and the value of the land is high. Jotes always obtain a good price. The whole of the taluk is cultivated; and the crops of paddy are exceedingly large. Tobacco and jute also do well here. The cultivators are chiefly Rajbansis.
21	Ditto	Ditto	Chur-Churabandar	Chur is land of alluvion accretion. The taluk which is an accretion to Churabandar is called Chur-Churabandar. The soil is composed of fine sand, with little clay. The taluk was formed by the action of Jaldacca river. The only crops grown are paddy and a little jute and tobacco. The cultivators are Rajbansis.
22	Ditto	Ditto	Purbadahar	Purba = at first or first, Dahar = to adore or worship. The god who is adored first. There is a god by the name of Purbadahar (Mahadeo) in the taluk which obtains its name from him. A small red brick temple exists in this taluk and is said to have been built by the Raja who erected Jalpesh temple. It is a ruin. The soil is rich and the land low. The yield of paddy per acre is large. Most of the cultivators are Rajbansis who grow paddy, tobacco and mustard seed. The Mullick hat (market) is in this taluk.
23	Ditto	Ditto	Bhangamali	Bhanga = broken, mali = road. There is an old Bhutia road running through the taluk. It is broken in several places, hence the name Bhangamali. The soil is a rich sandy loam yielding good crops to the cultivators, nearly all of whom are Rajbansis. The Huchlurdanga Government market is in this taluk.
24	Ditto	Ditto	Salbari	Sal = a kind of tree (Shorea Robusta), bari = place. There is a small group of sal trees in the taluk which obtains its name from them. The soil here is poor with much fine sand. Crops do not grow well. Most of the cultivators are Rajbansis.
25	Ditto	Ditto	Gartoli	Gar = fort, Toli = suburbs. The lands about a fort. The temple Jalpesh stands in this taluk. It is possible that a fort existed in the taluk years ago, and that the taluk was named after it. The taluk is a small one. The land is low and grows chiefly Haimanti paddy. All the cultivators are Rajbansis.
26	Ditto	Ditto	Bhuskadanga	Bhuska = the name of a man, danga = high. The taluk is made up of a block of high land in which the soil is sandy. It obtains its name from Bhuska Das who first settled here. The soil in most of the taluk is very poor; chiefly fine sand. The cultivators are Rajbansis and Muhammadans.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
•	1	2	3	
27	Mynaguri	South Mynaguri	Mynaguri Civil station	There is a deity here called "Maynamoi Tacurani" She is still worshipped at her shrine which is within Mainaguri market. The taluk is named after her. The soil is a sandy loam on which paddy is grown and does well. The crops of jute and tobacco are poor. The Jalpaiguri-Alipore and other roads pass through the taluk. Mynaguri market is within it.
28	Ditto	Ditto	Madhadangi	Madha=the Hindu god Krishna, dangi=high land. This is a shrine of this god on a piece of high land in the taluk, which is named after him. The Mynaguri market adjoins this taluk. The soil is a dark loam composed of sand and clay. The jotedars are chiefly Rajbansis. The crops grown are paddy, tobacco and jute, also some sugarcane.
29	Ditto	Ditto	Dangapara	Danga=high, para=village. Hence a village or taluk in which most of land is high. The soil contains more sand than clay. The cultivators are chiefly Rajbansis. Tobacco, jute and paddy are grown here.
30	Ditto	Ditto	Ulladabri	Ulla=name of a man, dabri=a piece of land. Ulla Das first settled in the taluk and began to cultivate the land; hence the taluk is named after him. The soil of this taluk is a sandy loam. The cultivators are made up of Muhammadans and Rajbansis. Being near Jalpaiguri, the value of the land is high. The crops grown are chiefly paddy and jute.
31	Ditto	Ditto	Marichbari	Marich=chilly, bari=field, etc. It is alleged that formerly there was extensive cultivation of chilly in this taluk, hence its name. At present the principal crop of the taluk is paddy. The Bengal Duars Railway passes through the taluk. Most of the cultivators are Muhammadans. Dongar-hat (market) is in this taluk.
32	Ditto	Ditto	Sissuabari	Sisua=corruption of Sissu, a kind of tree (Dalbergia Sissoo), bari=place. The place where Sissu trees used to grow, hence the name. The important market known as Barnes' hat is in this taluk. Much injury has been done to jotes here owing to action of the Tista river which has silted some of them over with sand and utterly destroyed others.
33	Ditto	Ditto	Barogharia	Baro=twelve, gharia=houses. The story is that the man who first settled in the taluk erected 12 huts for himself, and for this he obtained the nickname of Barogharia. Another story is that 12 families first squatted together in the taluk, hence its name. The soil is very good for Haimanti paddy and jute, and these are the principal crops grown by Rajbansis and Muhammadans.
34	Ditto	Ditto	Goregram	Gore=burying ground, gram=village. The village or taluk where the dead man used to be buried. The taluk got its name from this. The land is lowlying and yields good crops and paddy and jute. Most of the cultivators are Rajbansis.
35	Ditto	Ditto	Putimari	A small fish called Puti used to be obtained in a bhill in the taluk, hence the name. The soil is made up of fine clay and sand. The crops which flourish best are paddy and jute. Onions also do well. The cultivators are chiefly Rajbansis.
36	Ditto	Ditto	Harmoti	The taluk is named after the Harmoti river which runs through it. The eastern half of the taluk contains somewhat poor soil. The western half is low and yields good crops of paddy and jute. Most of the cultivators are Muhammadans. Bhot hat (market) is in this taluk.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
37	Mynaguri	South Mynaguri	Khairkhal	Khair trees used to grow along the banks of a khal or canal which is in the taluk, hence the name. The shrine of the deity Khairkhal is also in this taluk. The land here is low with clayey soil and very rich in some places. The high land lies on the north-eastern part of the tahsil and contains poor soil. The crops grown are paddy and jute. The cultivators are Muhammadans and Rajbansis.
38	Ditto	Ditto	Brahmapur	Brahma = Brahmin, pur = place. The place where Brahmins used to remain. There is a story that a number of Brahmins formerly resided in this taluk which was named after them. Another tale is that the taluk was named after the god Brahma, who was supposed to be here. Some of the Jalpesh jagir jotes were in this taluk. Speaking generally the soil of this taluk is poor. Some of the jotes on the southern and western part of the taluk are very good, and large crops of paddy and jute are obtained from them. Most of the cultivators are Muhammadans.
1	Moraghat	Pundibari	Pundibari	Pundi = wild cardamum, bari = place. The taluk used to be covered by wild cardamum, hence its name. It is now entirely under cultivation. The soil is a sandy loam. The crops are paddy, jute, mustard-seed and tobacco. The cultivators are Rajbansis and Muhammadans.
2	Ditto	Ditto	Jurapani	So called after the Jurapani river. The land is entirely cultivated with paddy, jute, tobacco and mustard-seed by Rajbansis and Muhammadans. Crops do not suffer from ravage by pig.
3	Ditto	Ditto	Jhar Salbari	So called because there were many sal trees here formerly and the place was full of jungle. Much of the land is now under cultivation with paddy, jute, mustard-seed and tobacco. The cultivators are Muhammadans and Rajbansis. Crops suffer from ravage by pig.
4	Ditto	Ditto	Salbari, I	A small block of sal trees exists here, and the taluk is named after them. The entire taluk is under cultivation, and good crops of paddy and jute are obtained by the cultivators who are Rajbansis and Muhammadans. Salbari market is in this taluk, and Jalpaiguri-Alipore road passes through.
5	Ditto	Ditto	Gadong	Is named after the Gadong river which runs through the taluk. The land is well cultivated with paddy, tobacco, jute and mustard-seed. Wild pig injure crops here. The cultivators are Muhammadans and Rajbansis. Kajir hat is in this taluk.
6	Ditto	Ditto	Kholaigram	Kholai or khal = low, gram = place. The land of this taluk is low and undulating, hence the name. It is very good for paddy and jute. The soil is a fine clayey loam. The cultivators are chiefly Rajbansis. Jalpaiguri-Alipore road runs through the taluk.
7	Ditto	Ditto	Boragari	The land of this taluk is fit for planting the boro paddy, hence called Boragari. Most of the cultivators are Rajbansis. Good crops of paddy, jute and tobacco are obtained. The soil is a dark sandy loam. Dhupguri hat is in this taluk.
8	Falakata	Moraghat	Bairatiguri	A tree called Bairati sal used to grow in this taluk, hence the name Bairatiguri. The soil is sandy loam. The land is well cultivated by Rajbansis and a few Muhammadans with paddy, jute, tobacco and mustard-seed. The Alipore-Noathoa road runs through the taluk.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3	4	
	Falakata	Moraghat	Gosairhat	Formerly a Gosai or Sanyasi established a hat, here, hence the name Gosairhat. The hat is not in existence at present. The land is high in the north-western part of the taluk. Crops in this part are injured by wild pig. The cultivators are Rajbansis and Muhammadans.
10	Ditto	Ditto	Garokhuta	So called after the Garokhuta river which flows through the taluk which has only lately been brought under cultivation by Muhammadans and Rajbansis. Much injury is done to crops in the northern part of taluk by pigs which come from Moraghat forest.
11	Ditto	Ditto	Sakojhora	Sako=name of a Garo, jhora=Stream. Is named after a small stream which runs through the taluk. The land is high and undulating. The soil is a sandy loam. The taluk is a new one, brought to notice in this settlement and is being cultivated by Meches, Garos, Muhammadans and Rajbansis.
12	Ditto	Ditto	Jhar Magurmari	Jhar=jungle, magur a kind of fish, mari=to be had. The fish called Magur used to be obtained in ponds near the jungles in this taluk, hence the name. Most of the cultivators are Muhammadans. The soil is loam composed of sand and clay. Good crops of paddy and jute, also tobacco are obtained. Pig do much injury to crops.
13	Ditto	Ditto	Magurmari	Formerly a bhil existed here in which the magur fish was plentiful and used to be caught. The taluk obtains its name from this. The taluk is one of the best in pargana Moraghat. The soil is rich sandy loam from which splendid crops of paddy and the best jute are obtained. Most of the cultivators are Muhammadans.
14	Ditto	Ditto	Barogharia	Baro=twelve, gharia=homesteads. This taluk was formerly inhabited by only 12 men from which fact it is called Barogharia. It is well cultivated by Muhammadans and Rajbansis. The crops of paddy, jute and tobacco are generally good and full. The soil is a sandy loam. Jalpaiguri-Alipore road passes through the taluk.
15	Ditto	Ditto	Jakoikona	Jakoi=a fishing basket, kona=small. There are only three small jotes in this taluk which resemble a jakoi, hence the name. It is entirely cultivated. The soil is sandy loam. The crops are paddy, jute, tobacco and mustard seed are good. Pigs do no damage here.
16	Ditto	Ditto	Altagram	Alta=name of a man, gram=village. The taluk is named after Alta Das who was headman here. It is by far the best taluk of Falakata tahsil, and entirely cultivated. The value of land here is high and jotes always fetch a good price. The crops of paddy, jute, tobacco and mustard-seed are generally full. The soil is a rich loam. The Mynatoli market is here. A little of the western part of taluk has been silted over with sand by the Jaldacca river.
17	Ditto	Ditto	Godairkuti	Godea=name of a man, kuti=house or homestead. The taluk obtains its name from Godea Das who formerly resided here. The Jaldacca river has diluviated some of the western portion of this taluk. Pigs come from jungle on that part and do much injury to crops. The entire taluk belongs to a Kyan Oswal who cultivates it through Muhammadan and Rajbansi under-tenants. The soil is a sandy loam on which paddy, jute and tobacco are grown.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
18	Falakata	Moraghat	Jhar Altagram	This taluk is on the north of Altagram and was formerly full of jungle, hence the name. The soil is a very rich loam giving splendid crops of paddy, jute and tobacco to the cultivators, most of whom are Rajbansis. Pigs injure crops in the northern part of the taluk.
19	Ditto	Ditto	Angrabhasa	Is named after the Angrabhasa river which passes through it. The taluk is a new one. Much of it remains to be cultivated. The soil is a sandy loam. The cultivators are Rajbansis, Meches, Oraons and Muhammadans. Crops are injured by pig.
20	Ditto	Ditto	Salhari II	The taluk obtains its name from the sal trees growing there. The soil is a sandy loam. The cultivators are Meches, Oraons and Rajbansis. The taluk is a new one and recently brought under the plough.
21	Ditto	Ditto	Chapaguri	Chapa = a flower or tree, guri = place. The taluk is named after the chapa tree which used to grow here. It is a new taluk, only now being cultivated by Oraons and Meches.
22	Ditto	Ditto	Khairkata	Khair = a tree (<i>Acacia catechu</i>), kata = thorn. So named after this tree which grows luxuriantly here and is full of thorns. Some believe that the name is obtained from the Khairkata river which runs through the taluk. It is a new taluk only now being cultivated by Rajbansis, Meches and Oraons.
23	Ditto	Ditto	Dudumari-Kolabari	Dudumari = a river, kola = plantain, bari = homestead. Is called after the Dudumari river which runs through taluk. Wild plantain trees used to grow here, hence the name. The taluk is only now being cultivated by Meches and Oraons.
24	Ditto	Moraghat	Tondoo	So called after a Mech Mondol named Taodoo who resided here. The Jaldacca and Dinah rivers have diluviated many jotes in the taluk. The soil is made up of fine sand and gravel. The land of most jotes is irrigated. The cultivators are Meches, Paharias, Rajbansis and Muhammadans. The crops grown are paddy, mustard-seed and a little jute.
25	Ditto	Ditto	Nagrakata	Is named after Nagra Bhutia who formerly resided here. The Jaldacca river has diluviated some of the western part of this taluk. The soil is sand and fine gravel along the foot of the hills and a loam with much fine sand towards the southern portion. The cultivators are Oraons, Paharias, Meches, Rajbansis and Muhammadans. The crops grown are paddy and Indian corn. Many of the jotes are irrigated, else they could not be cultivated.
26	Ditto	Ditto	Haritalguri	Harital = green pigeon. So called from the number of green pigeons which used to be sit on trees in this taluk. Another story is that there were formerly many Haritoki trees here. There are only seven new jotes in this taluk, and these are held by Meches who grow only paddy.
	Ditto	Lakhipur	Barodoba	Bara = large, doba = pond. There is a large doba or pond and several small ponds in this taluk. The taluk is named after the large doba. The soil is a rich sandy loam from which splendid crops of paddy, jute and tobacco are obtained. The cultivators are chiefly Rajbansis. Crops are sometimes injured by wild pigs.
	Ditto	Ditto	Bhutnirghat	Bhutni = a Bhutni woman, ghat = a ghat or ferry. In the time of the Bhutias a Bhutia woman was the farmer of Mujnai ferry. The taluk is therefore, named after her. The soil is a sandy loam on which paddy, jute and tobacco, particularly the latter, does well. The cultivators are chiefly Rajbansis. Crops do not suffer from injury by wild animals.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
3	Ditto	Ditto	Balasoondar	Bala=sand, soondar=beautiful. Formerly there was a river named Balasoondar in this taluk. It has now silted up. The sand of this river was fine and used to grow any crop. Even now good crops of paddy, jute and tobacco are obtained, hence taluk was named after the river. The cultivators are chiefly Rajbansis.
4	Ditto	Ditto	Khirkarkote	Khira=name of a man, kote=a moat. In the time of the Bhutia Government one Khura Das dug a moat round his homestead. The taluk was named after him. The soil is a good loam. The crops grown are paddy, jute, mustard seed and tobacco, which do not suffer from injury by pigs. The jotedars are Rajbansis and Muhammadans.
5	Falakata	Lakhipur	Katalbari	Katal=jack fruit, bari=place. The taluk obtains its name from some jack fruit trees which used to grow here. The jotedars are Rajbansis and Muhammadans. The soil is a sandy loam in which paddy, mustard-seed, jute and tobacco are grown. No damage is done to crops by wild animals.
6	Ditto	Ditto	Guabar	Gua=betelnut, bar=place. The story is that betelnut trees were first planted in this taluk. The crops grown are paddy, mustard-seed, jute and tobacco. The soil is a sandy loam.
7	Ditto	Ditto	Dalgaon-Sorugaon	Dal=a local deity. Soru=a local deity, gaon=village. The taluk obtains its name from these two deities who were supposed to remain here. Much of the land is still waste. Crops of jute and paddy suffer from ravage of pigs.
8	Ditto	Ditto	Dhulagaon	So called after Dhula Mech who was headman of the village. A great portion of the taluk is waste, and has been resumed from the estate of the late Colonel Hedayet Ali Khan.
9	Ditto	Ditto	Rangali Bajna	Is named after Rangali Mech who was headman of the taluk. The present residents are only Meches. Crops suffer from ravage of wild pigs.
10	Ditto	Ditto	Nepania	So called on account of there being no water in this taluk, which is a jungle at present.
1	Ditto	West Madari	Khairbari	This is a new taluk. It was not in existence in the time of the Bhutias. Most part of the taluk is covered with khair trees, from which it obtains its name. Khair=Acacia catechu, bari=place or homestead, hence place where khair trees are found. Most of the cultivators are Meches and Paharias. The crops grown are chiefly paddy and Indian corn. The jotes are irrigated as the land is high and the soil sandy. Crops are injured by pigs.
2	Falakata	West Madari	Salkumar	There are some sal trees in this taluk from which it obtains its name. Sal tree=Shorea Robusta, kumar=place. The chief crops grown are paddy and jute. The cultivators are Muhammadans and Meches. Land is high. Soil is a sandy loam. Some jotes are irrigated. Crops are injured by pigs.
3	Ditto	West Madari	Deogaon	Deo=deity, goan=homestead or village. The story is that in ancient times there was a Deo (or local deity) in this taluk and that men used to worship it by sacrificing pigeons, ducks and pig. If any one failed to do this it was believed that the Deo would kill the defaulter's children, hence the taluk is named after the deity. The land is very good, but there is a paucity of people in the taluk, and much jungle remains in it. Crops grown are paddy, jute and mustard-seed. Pigs do much injury to crops. The cultivators are chiefly, Meches, and Muhammadans, also some Rajbansis.

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<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
4	Falakata	West Madari	Jhar Beltali	Jhar=jungle, Bel=a fruit tree (<i>Ægle marmelos</i>). This taluk was covered with dense jungle, and there were some bel trees from which it obtains the name of Jhar Beltoli. Much waste land exists in the taluk. The number of people is small, crops grown are paddy, jute and mustard-seed. Pigs do much injury.
5	Ditto	Ditto	Beltoli Bhandarni	The shrine of a deity called Bhandarni existed under a Bel tree in this taluk. Bel=a tree, Toli=place, Bhandarni, name of the deity. The taluk obtains its name from this. The land is high and undulating. The soil is a sandy loam. There are few people in the taluk and much waste land is still available for cultivation. Pigs do much injury to crops.
6	Ditto	Ditto	Parangpar	Parang=name of a river, par=on banks of. The taluk obtains its name from the Parang river which runs alongside it. The land is high; the soil is fine sand with a little clay; Paddy, tobacco and jute do well here. Most of the jotedars are Muhammadans who came from Patgram and Baura. Pig and deer do much injury to crops.
7	Ditto	Ditto	Raichenga	The taluk is named after the Raichenga river which runs through it. The land grows good crops of paddy and tobacco. It is the best taluk of Pargana West Madari and Falakata Government market is situated in it. Most of the cultivators are Rajbansis.
8	Ditto	Ditto	Dumchi Chapaguri	The Dumchi reserved forest lies alongside this taluk. The Champ tree (<i>Micelia Champaka</i>), used to be found in this taluk, hence the name. The taluk is full of jungle at present.
1	Alipore	Bhatibari	Chowkirboss	During the time of the Bhutias there was a Katam (tahsildar) who gave the taluk as a jagir to a chaukidar (village watchman) who resided here; hence the name. The taluk is full of jungle with little cultivation which is done by Rajbansis.
2	Ditto	Ditto	Talessarguri	Is named after the deity Talessar who is believed to remain here. The taluk is full of jungle.
3	Ditto	Ditto	Mahakalguri	It named after Mahakal the deity who governs wild animals and is supposed to reside here. Much of this taluk was first cultivated by Meches and lately by the Santhals who have a colony here. The soil is a rich loam yielding good crops of paddy and Indian corn. Pigs and sometimes wild elephants injure crops.
4	Ditto	Ditto	Masjidkhana	Masjid=mosque, khana=place. A mosque supposed to be over 200 years old and to have been built by Chand Kait and Bhela Kait, two Muhammadans who had some influence over the Bhutias, exist here. The taluk obtains its name from this. Most of the cultivators are Muhammadans. The crops grown are paddy, jute and mustard-seed and tobacco.
5	Ditto	Ditto	Totpara	Tot=Totos, an aboriginal tribe, para=village. The Totos are said to have formerly resided here; the taluk obtains its name from them. The soil is poor; a light loam with much fine sand. The cultivators now are Rajbansis who grow paddy, jute and tobacco.
6	Ditto	Ditto	Karipara	Kari=one who can use a bow, para=village. The taluk obtains its name from a number of shikaris who formerly resided here. The soil is poor and full of fine sand. The cultivators are Rajbansis and Muhammadans who grow paddy, jute, mustard-seed and tobacco.
7	Ditto	Ditto	Bindipara	Bindi=name of a man, para=village. The taluk obtains its name from Bindi Das who was headman here. The soil is a sandy loam and is cultivated by Rajbansis and a few Muhammadans. The crops grown are paddy, jute, mustard-seed and tobacco.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3	4	
8	Alipore	Bhatibari	Karjipara	Karji = father-in-law of a Raja, para = village. Called after the father-in-law of a Raja of Kuch Bihar who formerly resided here. The soil is a sandy loam on which paddy, jute, mustard-seed and tobacco are grown. The last named crop is very poor. Most of the cultivators are Rajbansis.
9	Ditto	Ditto	Saudpara	Named after Saud Das was a headman in this taluk. The soil is good loam in which paddy, mustard-seed and jute grow well. The cultivators are chiefly Rajbansis.
10	Ditto	Ditto	Bhatibari	Bhati = low, bari = homestead. This is the most southern taluk in the pargana. A market is here. The Bhutias used to halt at this place as the last post within their jurisdiction; hence the name. Most of the jotes are held by Rajbansis. The soil is a sandy loam. The crops grown are paddy, jute, mustard seed and tobacco.
11	Ditto	Ditto	Chilurghat	Chilu = a man, ghat = a ghat. A man, Chilu, used to keep a ghat at the Hari-bhanga river. The taluk obtains its name from him. The lands here are held almost exclusively by Rajbansis who grow paddy, jute, mustard-seed and tobacco. The soil is a sandy loam.
12	Ditto	Ditto	Kumarijan	So called from the homestead of Kumar (potter) which existed near a jan (narrow channel for catching fish) in this taluk. Paddy, jute, tobacco and mustard seed are cultivated here by Rajbansis and Muhammadans. The soil is a sandy loam.
13	Ditto	Ditto	Khalisamari	The taluk obtains its name from the river Khalisamari. The cultivators here are Rajbansis and Muhammadans. The crops grown are paddy, mustard-seed, jute and tobacco. The soil is a sandy loam.
14	Ditto	Ditto	Parokata	Called after the river Parokata on which it stands. The taluk is still full of jungle whence pigs come and injure crops on jote lands. Most of the cultivators here are Muhammadans who have come from Kuch Bihar. Paddy is chiefly grown here.
15	Ditto	Ditto	Burujirkuti	Buruj = mound or pillar, kuti = house. The taluk obtains its name from an earthen mound which used to be here, and also from the fact that it is surrounded by the Bakla, Rydak and Lahakuria streams. The taluk is under jungle. Muhammadans have come from Kuch Bihar and have settled here. Wild pigs injure crops.
16	Ditto	Ditto	Sibkata	Named after Sib Mech. Now all under jungle.
17	Ditto	Ditto	Chapani	Named after the Chapa or Champ tree (Michelia Champaka) which used to grow here. The taluk is a well cultivated one. The soil being a fine sandy loam. The cultivators are Rajbansis and Muhammadans. Much injury is done to crops by pig.
18	Ditto	Ditto	Koyakhata	So called after Koya Das whose homestead was here. The northern part of this taluk is full of jungle from which pigs come and injure crops. The Dobasiyas reside in this taluk. The soil is a fine sandy loam. The crops grown are paddy, tobacco, and a little jute.
19	Ditto	Ditto	Khatopara	A short man named Khato Das used to reside here. The taluk takes its name from him. The soil is poor and crops do not grow well. The land also is high. Rajbansis chiefly cultivate the land.
20	Ditto	Ditto	Thanupara	This taluk obtains its name from Thanu Das who had his homestead here. The soil is a sandy loam. The crops cultivated by Rajbansis and a few Muhammadans are paddy, mustard-seed and a little jute. Pigs do much injury to crops.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
1	Alipore	Buxa	Nimtir Domohoni	Nimti = the name of a river. Domohoni = two mouths, i.e., the place where the river Nimti joins the river Kaljani. The lands are cultivated by Meches who pay capitation tax.
2	Ditto	Ditto	Patkapara	Named after Patka Mech Mondol. Now cultivated only by Meches who pay capitation tax.
3	Ditto	Ditto	Bairiguri	So called after the Boira tree. The kernel of the seed of this tree is eaten. The taluk is a new one on which Muhammadans from Kuch Bihar and Rangpur have settled.
4	Ditto	Ditto	Subhagunge	The place where the Bhutia Subahs used to reside. It is well cultivated with paddy, jute and mustard, also a little tobacco. The soil is a sandy loam. The cultivators are only Rajbansis.
5	Ditto	Ditto	Chaporerpar	Stands on the bank of the Chapor river after which it is named. The soil and cultivators are same as in Subagunge.
6	Ditto	Ditto	Satali Mendabari	So called after Menda Mech. Is under jungle. Meches cultivate some land and pay capitation tax.
7	Ditto	Ditto	Latabari	Names after Lota Mech who was headman here. Meches cultivate only paddy. Land is irrigated. Wild elephants and pigs do much injury to crops.
8	Ditto	Ditto	Banchukamari	Ban = jungle, chowka = a circular bhil or lake, mari = to kill. There is a circular lake in this taluk in which fish may be killed; hence the name. The soil in the taluk is a sandy loam in which paddy and a little jute and tobacco are grown by Rajbansis and Muhammadans. Much injury is done to crops by pigs.
	Ditto	Ditto	Ghagra	Named after the Ghagra jhora. The taluk is a new one. Cultivators are Rajbansis and Muhammadans who have come from Rangpur and Kuch Bihar. Much injury is done to crops by pigs.
10	Ditto	Ditto	Jitpur	Names after Jito Bhutia who used to reside here at time of the Bhutias. The taluk is inhabited now by Rajbansis and Paharias. The latter keep buffaloes and sell milk. The former cultivate the western part of the taluk with paddy, mustard-seed and jute. Much injury is done to crops by wild pigs and elephants.
11	Ditto	Ditto	Damanpur	Named after Daman Das who was the first to settle here. The headquarters of Buxa subdivision are in the southern part of the taluk. The northern part is still under jungle.
12	Ditto	Ditto	Chengpara	So called after Cheng Das who resided here. A well cultivated taluk in which chiefly paddy is grown cultivated by the cultivators who are Rajbansis.
13	Ditto	Ditto	Majirdabri	Manji or fishermen used to reside in this taluk; hence the name. There are only two jotes belonging to Rajbansis here. Crops are destroyed by pigs.
14	Ditto	Ditto	Dhalkar	Dhal or Dhalu = undulating. The land here is undulating; hence the name. The land is still under jungle.
15	Ditto	Ditto	Salsalabari	Named after Salsala Das who is said to have formerly resided here. Salsala = long. The taluk is a long narrow one and runs from north to south; probably hence the name. The southern end of the taluk is well cultivated. The Alipore-Haldibari road passes through it. The soil is a sandy loam. The crops are paddy, jute, mustard-seed and a little tobacco. The cultivators are Rajbansis and Muhammadans.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	2	3		
16	Alipore	Buxa	Barachowki	Named after a large embankment which the Bhutias put up on south of this taluk to mark the boundary between it and Kuch Bihar. The soil is a sandy loam. Crops grown by Rajbansis and a few Muhammadans are paddy, mustard-seed and a little jute and tobacco. Crops are injured here by wild pigs.
17	Ditto	Ditto	Chalnipak	Chalni=a circular tray for cleaning paddy. The taluk is a circular one resembling a chalni; hence the name. The cultivators are chiefly Rajbansis and the crops grown are paddy, mustard-seed and a little jute. The soil is a sandy loam.
18	Ditto	Ditto	Chuarpar Jhajangi	Chuar=a jhora, par=banks of, Jhajangi=field or open space. Hence an open taluk on the banks of the Chuar jhora. The taluk is uncultivated and under jungle.
19	Ditto	Ditto	Atiabari	Names after Atia Mech. Now inhabited only by Meches who cultivate land by payment of Dao tax.
1	Ditto	Chakwakheta	Chakwakheta	Chakwa=a name, khet=field. This was known to the Bhutias as Chakwa's field; hence the name. The soil and crops are similar to Sonapur.
2	Ditto	Ditto	Sonapur	So called after Sona Das who was a Mondal here. Most of the taluk is cultivated by Rajbansis who grow paddy and mustard-seed. Pigs do much injury to crops. The soil is a sandy loam.
3	Ditto	Ditto	Panchkalguri	Named after the Panchkol (Chalta) trees (<i>Dillenia Indica</i>), which are in the taluk. The soil is a sandy loam. The cultivators are Rajbansis and a few Muhammadans, who grow paddy and a little jute and tobacco, also mustard-seed. Crops are injured by pigs.
4	Ditto	Ditto	Kamsingaon	So called after Kamsing Das. The soil and crops are the same as in Panchkalguri. Crops are injured by pigs.
5	Ditto	Ditto	Topsikhata	Named after Tpsi Das who was the first to settle in the taluk. The soil and crops are the same as in Panchkalguri. Crops are injured by pigs.
6	Ditto	Ditto	Porarpar	Named after the Porar river on which it stands. Porar=river, par=bank. It is a taluk well cultivated by Rajbansis with paddy, jute, mustard seed and tobacco, but pigs still injure crops. The Alipore-Ghargharia road runs through it.
1	Ditto	East Madari	Salkumar	Named after sal trees which are near the taluk. Much damage to crops is done here by pigs. Most of the cultivators are Muhammadans who have come from Kuch Bihar.
2	Ditto	Ditto	Patlakhawa	Patla=a name, khawa=to eat. The origin of the name of this taluk is not exactly known. Some allege that a leading Rajbansi named Patla Das ate rice here. The soil is sandy with much high land on which buffaloes are kept. The graves of three British officers who died on cholera in 1864-65 are here.
3	Ditto	Ditto	Barojhar Majgami	Called the centre taluk within heavy jungle. Only Meches reside here. Cultivation is done by irrigation.
4	Ditto	Ditto	Barojhar Satali	Sat=Seven, ali or ayle=path. The Meches say that there used to be seven roads or footpaths leading into the forest from here; hence the name. The land is under jungle with some cultivation by Meches who pay capitation tax.
5	Ditto	Ditto	Majgami	Maj=centre, gam=village. The centre taluk. Now all under jungle.
6	Ditto	Ditto	Jaigaon	Named after Jai Mech who was the headman here. The soil is a light loam composed of fine gravel and sand on which only paddy and Indian corn are grown by Paharias and Meches.

APPENDIX V—contd.

<i>Serial number</i>	<i>Tahsil</i>	<i>Pargana</i>	<i>Name of Taluk</i>	<i>How name of the Taluk was obtained</i>
1	1	2		
1	Bhalka	Bhalka	Kumargram	Its original name was Kongargaon. A man named Hansha Deb Kongar resided in the taluk, and the Bhutias therefore named the place "Kongargaon". The soil is much clayey on which only paddy is grown. Some of the lands are irrigated. The cultivators are only Rajbansis. Pigs injure crops in the northern part of the taluk.
2	Ditto	Ditto	Pukarigaon	A Brahmin named Kalia Patra dug a tank (puskarni or pukur) in the taluk; hence the name Pukarigaon was given to it by the Bhutias. The soil is blackish clay on which only Haimanti paddy is grown. The cultivators are entirely Rajbansis.
3	Ditto	Ditto	Haldibari	Haldi=turmeric, bari=place. There was a shrub called "Darna Haridra" (Curcuma Zedoaria) in the taluk; hence it is called Haldibari. The only crops grown are paddy and cotton. The latter by Garos. The soil is a clayey loam. Pigs injure crops here.
4	Ditto	Ditto	Paglarhat	A hat or market was established by one Pagla kotal in the taluk; hence it is called Paglar hat. The cultivators are only Rajbansis. The soil is clayey loam. The only crop grown is paddy.
5	Ditto	Ditto	Chengmari	A wealthy man named Cheng Das was the first to squat in the taluk, hence it is called "Chengmari". Another story is that cheng fish used to be caught in the ponds of the taluk. The cultivators are chiefly Meches and Rajbansis. The soil is a clayey loam on which paddy is chiefly grown. Land is irrigated here. Crops are injured by pigs, and occasionally by wild elephants. The Rydak river has diluviated land here.
6	Ditto	Ditto	Duldulce	There was formerly soft clay in the taluk, hence it is called Duldulce. The cultivators are Meches and Rajbansis. The crops grown are paddy and a little jute. Fields are irrigated when paddy is growing. Crops are injured by pigs. A small bi-weekly market is held here and belongs to Government.
7	Ditto	Ditto	Barobisa	Formerly people who cultivated land here used to obtain only 12 bis, i.e., 4 maunds 20 seers of paddy per hal of 5 acres here; hence the name. The land is high with fine blackish sand. Cultivation is done by irrigation. Most of the cultivators are Rajbansis. Wild pigs do much damage to crops.
8	Ditto	Ditto	Narartoli	Nara Das Bairagy, a man of some influence, formerly resided in this taluk, which is therefore named after him. There is a lot of jungle on every side of this taluk and crops suffer from injury by pigs and wild buffaloes. A few Muhammadans and Rajbansis have jotes here. They grow only paddy. The soil is a sandy loam. Several clumps of Betelnut trees here indicate that the taluk was once well cultivated.
9	Ditto	Ditto	Kamakshaguri	There was an idol "Kamaksha Thacur" under a palas tree here. The taluk thus obtains its name. It is entirely under jungle.
10	Ditto	Ditto	Kumarpara	So called after a Bhutia Subha named Bhalka who died here. The soil is a sandy loam on which only paddy is grown. The cultivators are Rajbansis.
11	Ditto	Ditto	Chakchaka	Is named after a kind of bright sand which is in the soil. The taluk is under jungle.
12	Ditto	Ditto	Majhirdabri	Majhi=fisherman, dabri=land. The taluk was formerly inhabited by certain Majhis, hence called Majhirdabri. It is now nearly all under jungle.
13	Ditto	Ditto	Chotoguma	Adjoins the taluk named "Guma" of the province of Assam. A man named Guma Katam died here. The taluk is named after him. It is called Chotoguma as it is smaller than the regular Guma. The cultivators are only Rajbansis whose number is few. The only crop grown is paddy. Pigs do much injury to crops.
14	Ditto	Ditto	Morakhata	A Mech named Mara formerly resided here. The taluk is called after him. It is now all under jungle.

APPENDIX VI

GLOSSARY OF LOCAL TERMS AND SENTENCES USED IN THE WESTERN DUARS

[Extract from SUNDER'S SETTLEMENT REPORT]

The following glossary is reprinted in the hope that the visitor will find it helpful during his progress through the district :

<i>English</i>	<i>Garó</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Rajbansi Bengali</i>
1	2		4		
Air	Nampar	Bar	Bingah	Loong	Por khetor
A widow who remarries	..		..		Khor khaiche
Agreed	Ang-gonga		Uapachrdo		Khaiche jhaki
Agreed, consented	..		..		Kania patro
A unmarried woman	..		..
who lives with a man as his wife					
A barren woman	Panmadwa		Chimatna		Banji
A woman who lives with a man as his mistress			..		
Acid	Iia		Yana		Tak
Boy	Misha	Heoa bisha	Wamacheng	Pucho	
Betel-nut	Gae	Goae	Gawai	Gove	
Bat	Tupak Vareng	Badanali	Lathu	Pheolontha	
Bison	Mosu-balat	Bas-blot	Nimo	Rihno	
Bael	Bael-ti	Bael-bithi	..	Beu	
Bee-hive	Neh	Bere	Saia	Beancha	
Bamboo tobacco box	Punpuku or Tam-ku	Tamcoo hachung	Pato	Tangkoo tungchu	
Bag for keeping betel nut (dry)	Sipi	Sipi	Sipi	Supari-Gyap	
Blind woman	Mokur kani	Mogun kani	Memicheng kana	Shyam	
Blind man	Mokur kana	Mogun kana	Wamacheng kana	Shyao	
Branch	Pan gagong	Dalai	Gebe	Shalah	
Brother	Ajong	Phongbai	Eh	Pheun	
Brinjals	Bantao	Pantao	Bengini	Dolom	
Bring it	Ing lafa	Ejung labo	Lalathu	Ba-sho	
Bear	Makpor	Moophur	Nya	Thom	
Blood	Chi	Thoi	Viti	Itpa-Khyak	
Boat	Roong	Nao	Nawai	Tto	
Bone	Kereng	Begeng	Loosto	Ritho	
Bull Buffalo	Mushi Madwa	Moishu-phera	Dika pela	Mahi	
Buffali calf	Musha	Moishu	Dika appe	Mahi	
Bullock	Moshu	Iialua Moshao	Pekah dambe	Lahu	
Buffalo dung	Mushi-ji	Moishu-ki	Dika ishi	Mahiawa	
Back	Kunjoor	Bekon	Kenung	Gyab	
Bay leaf	Tejpat	Dana	..		
Before puberty	Bantai-shogrok	Jholoasa	Wangtegangna		Pat-gabur
Bright			Hangpapana		Jhal-jhul
Bamboo cylinder for milking in					Karia
Bitten (as by snake)	Dupu-kakao		Pujachopuna		Ghawai
Come here	Ing-foi	Ejung-foi	Lelai-eta	Nga-son	
Civet cat	Gandaori	Gandaori	Daoju	Piaze	
Crocodile	Gharial	Gharial	Guri	Ngyasim	
Come quickly	Babar-foi	Gokri phoi	Totowawang	Jobasu	
Castor oil	Endi-tel	Endi Thao	Endi-chusti		

APPENDIX VI—concl'd.

<i>English</i>	<i>Garó</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Rajbansi Bengali</i>
1	2	3	4	5	6
Cholera has occurred	Talaivalam chi thoa	Dhum jadung	..	Shamt	.
Cold	Sopai	Gojangdung	Chukingna	Lochum	
Daughter	Sha-michik	Bishahinjao	Memicheng	Pochu	
Don't go	Talai tong	Datang	Mahagaru	Ma-song	
Don't go by that road	Ulamó talai	Be lama jung da-tang	O nainta mahalo	Lam phidi da ti ma song	
Duck	Kaoda	Hangsho	Hangsa	Dambia	
Deer-Sambhar	Machok	..	Weiah	Shao	
Dove	Ghugu	Dao tao	Kuja	Thilligyun	
Dog	Kie	Sacma	Kia	Rokhi	
Day	Shan	Shan	Sani	Nyim	
Door	Nukdoor	Duar	Laioong	Goh	
Door panel	Nakap	Duar	..	Goh	
Drill (in sowing)	Hal gosta hapata-ka	Hal-gos	..	..
Dropsy	Kanchi kavartoa	Dei nang dong	Mipasungra		
Dysentery	Jisak	Thoikina-jadung	Mokina	..	
Egg	Taochi	Daodii	Ketu	Gongdo	
Eye	Mukar	Moggon	Michu	Mido	
Eye-brow	Mooktaran	Mooshram	Mimu	Mipo	
Eye-lid	Mooker-hor	Megunni-bigor	Migra	Mikpa	
Ear-ache	Nachorshaa	Khoma chadung	Nanoungchichana	Kaonchu	
Elephant	Nga plao	Moided	Hati	Lambuchi	
Elder sister	Ayah	Bijho	Anna	Ac	
Elder brother's son	Atai sha	Biadoi	Charing-wa	Nuchoong	
Elder brother	Dada	Ada	Appu	Phogem	
Cut that tree down	P'angorong	Ohe dong phung-dan	Singe yekpu	Shing-di-tto	
Cut that branch	P'an gagong than	Ohe dalaia dang-khagor	Gebeng-yekpu	Shala-di-tto	
Clear the forest line	Foresting loino hao	Forus loian dan-nangao	Nantadire		
Charcoal	Hangar	Hangar	Meshe	Senmo	
Chilly	Demchi	Banjlut	Muri	Yema	
Court-yard	Hakong	Chetia	Lang-gang	Sah	
Crow	Kowrah	Dewkha	Aja	Fola	
Cock	Tao konta	Daojala	Odangpa	Piap	
Cow Buffalo	Mushi-Mujju	Maishu-pheri	Dika chabe	Mahi	
Cat (male)	Miao-Madwa	Mooji-bonda	Minki boundang	Phillu	
Cat (she)	Miao-Mujju	Maoji bondi	Minki bouchama	Phillu	
Clothes	Shokok	He	Angdoong	Kc	
Cow-dung	Moshu-ji	Moskoo-ki	Pika ishi	Noawa	
Collect pepper in the jungle	Pompunet dakim-unrung	Chimpri betai ka-nani labo	Pimpri chun cha pipa		
Chilauni tree	Atak fang	Ghugra			
Cloth	Shokok	Hi			
Consumption	Rajbiadi	Rajbiadi			
Cholera	Telaivalam		Lopdena		
Cold in the head	Sopai mantwa		Nathigona		
Confused					Ttan
Finish, complete, liquidate					Habi-jabi
Famine					Wasil
					Hanria

APPENDIX VI—contd.

<i>English</i>	<i>Garo</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Kajbansi Bengali</i>
1	2	3	4	5	6
Fasting or to fast					Hobij
Fast	Mai-ifi				Upas
Go away	Li thathong	Thang	Hatu	Pha-son	
Girl	Mich'k sha	Hinj-ao-bisha	Chame	Amchu	
Go north	Pirang lei	Chaha thang	Enta-vatu	Chan-te-song	
Go east	Rasan muk pak Vanga lei	Sanja thang	Nuta-vatu	Sharsong	
Go south	Chareng lei	Klahaha thang	Leta-vatu	Lho-song	
Go west	Rasan doong lei	Sonap thang	Dita-vatu	Noopsong	
Garlic	Rasoon	Sambram	Mangsai	Gohkap	
Ginger	Chingku	Hyjeng	Eng	Sakka	
Green Plantain	Laktai-piting	Thali, gottang		Nga-lha saga	
Guava	Am-supari	Tam	Tampro	Bahsem	
Give me some tobacco	Ana tamcoo lao	Angno t a m k u gese labo	Tamchu piao	Nga tangku achi nga	
Give fire	Ana var lao	Anno vad hod	Me piao	Mi na	
Gourd (white)	Lahow	Laothii	Gusai	Kakru kap	
Gun	Bunduk	Silai	Solai	Tobda	
Give me to eat	Ana milao	Angno moikham labo	Ama pich oh	Nga samchi nang	
Give me some water	Ana chikalao	Angno doi labo	Kahi tipiang-oh	Nga chuchi nang	
Greyish	..	..	..	Khyalong	At gcha
Evening	Rashanduo	Belase-jabai	Jilong	Phiru	
English potato	Bilti han	Bilati tha		Kiwa	
Egret	Bogil	Daobo	Tung Tung kamu		
Ear	Nachar	Khoma	Nanoong	Nao	
Elua grass	Premsi	Mushiri			
Fingers	Chesisa	Ashi	Koroi	Jhumu	
Fence	Chikor	Thati	Barrah	Rao	
Fire	Var	Vad	Meh	Mih	
Fly	Shomreng	Tampoi	Tuia	Biam	
Forehead	Muktung	Kapal	Ting-ang	Thup	
Foot	Chaplap	Appha	Tangha	Kam	
Flying fox	Bokdul	Bokdul	Lah-tu	Piampu	
Father	Awa	Appha	Appa	Aku	
Father's younger brother	Vangtai	Adai	Pang	Aku	
Father's elder brother	Atai	Aiong	Jito	Aku	
Father's elder brother's wife	Akai	Aiong hinj-ao	Jitai	Am	
Fish	Nga	Nga	Ngya	Ngya	
Flesh	Kan	Bedod	Bea	Sha	
Fowl	Tao	Dao	Kekka	Pia	
Frog	Looak	Imboo	Pabu	Bep	
From whom did you buy it	Changi prebia	Nung mao la	Hangta-choiniga	Cho khaggi chale nyoyim	
Fever	Kalam	Lumjadung	Haina	Chheb	
Fish trap	Jan	..	..	..	Jai
Fuel bamboo	Jaota-va	Jaota-va			
Hair	Haoru	Kanai	Puring	Kya	
He goat	Purmi	Burma-panta	Edang	Ra	
He goat (castrated)	Purmi marwa	Burma-khasi		Rha-phapap	

APPENDIX VI—contd.

English	Garo	Mech	Toto	Bhutia	Rajbansi Bengali
1	2	3	4	5	6
Heel	Chitpu	Appha daodi	Kuki	Tum	
Hill	Achur	Hajo	Yago	Rhi	
Horse	Ghora	Gorai	Onyah	Tha	
Hog badger	Mun-gudri	Sial sudri	Bopa	Pangs-am	
Hog deer	Machok	Khatia	Gibe	Shao	
He is tall	Lao ong chungung bokorong	Obe mansia goj- ao geded		Khu-rin-oneh	
He is short	Marap band lok	Obe mansia gahi		Khu-thungku-me	
He is wicked	Marap sarcha	Obe mansia bara pakra		Khu-mi-sob-me	
Honey	Nichung	Bere bedai	Saia huti	Bian	
He must be beaten	No thong niga	Bikao shono mangao	Akuhi shanelo	Khu-bo-ti-go-she- me	
He must be imprisoned	No phatak gasainga niga	Bikao patak hono nangao	Akahi p a t a o shung nelo	Khu-chun-na- chuko ni yin	
How many daughters have you	Nini sha michikmik bechek	Nengni bishajoa shab se	No chime ashega yot	Che pon katech yot	
He is well	Uban penem toa	Be gham moin- dong	Ure entapa nive	Kho lesheim doo	
He is sick	Uban Kalam etwa	Be jobra jadung	Ure mokaina	Kho nao me	
How far is it	Bi jen	Biche gojan	Na haktanga	Tha rin thoon kaatech me	
Hand	Chakreng	Akai	Koee	Lab	
How many sons have you	Mik bachak sha hantai	Nungnia bisha sha bise	No chawase Ga	Chuphuco katech yop	
He has got fever	Omra kalam etwa	Bi lumjadung		Khu chheb nao me	
His	Uni	Bini	Uko	Khoo	
Here	..	..	..	Na	Ithi or ethi
Husking	..	..	Ama suma	..	Bara-jure
Head	Dakam	Khoro	Pudung	Goto	..
I am a constable	Ang sepai	Ang constable	Gassipi papumi	Nga-pheng-ing	
I am a forest guard	Ang foresting chuprasi	Ang foresni chup- rasi	Ga Chaprasi papumi	..	
I will smoke	Ang fuski sana	Ang tamku supni	Tamku anglo	Nga tangu thun- gni	
It is raining	Rang fitwa	Noka hadong	Vathi vahina	Chab kiah me	
Indian corn	Both mai	Doomba	Sonja	Geza	
I am well	Ang penem toa	Ang-gha moin- donga	Entapa nive	Nga lesheim yen	
I am sick	Ang kalam etwa	Ang jobra jadung	Ka mokaina	Nga nao eing	
It is cold	Kunchakao	Embe subai	Chukina	Di-ky-am me	
It is warm	Tunga	Embe gudung	Momoung tana	Di-chatom me	
It is near	Kataia	Katai	Tong nang	Tha nyim puyen	
It is far	Jena	Gojan	Hingdana	Tha ringoo yen	
It is very far	Ri chin jena	Go jan thar	Hingdakona	Ditharim me	
It is good to look at	Nung nema	Nino mujang	..	Le sheim me	
I brought it	Ang peri tana	Ang baia	Kachoina	Nga nyo yin	
I have a cow	Angi mosu toa mangsan	Angniao mosu moseban dong	Pika-i-Puchina	Nga pachi yo	
I have many cows	Ini mosu pachgek toa	Angha mosaoa gabang dong	Pika Haji nina	Nya no mam yo	
Iron	Shur	Shor	Cha	Cha	
I have many goats	Angi pajgu purun- toa	Angha burma gabang dong	Haje etwa nive	Nga rha kam yo	

APPENDIX VI—contd.

<i>English</i>	<i>Garo</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Rajbansi Bengal</i>
1	2	3	4	5	6
I will eat a jack	Ang ponchung sana	Ang kantal janai	Dangse charo	Nya damse chis- anniyin	
I am hungry	Ang mi ifitwa	Ang mikham ukaidung	Ama papungna	Nga to vin	
I am thirsty	Ang chika lang naotoa	Ang doi gang- dong	Ti Kasaina	Nga kha kom vin	
I am tired	Ang re-bak kao	Ang mojiné meng dong	Natai pay-ia puna	Nga thang chep yin	
I will not ear now	Ang tei sachá	And da ja toa	Ne machve	Nga chheh nao me	
Ink	Kali	Kali		Nacha	
J	Ang	Ang	Kug ve	Nga	Mui
Jackal	Shial	Shial	Mamishiri	Iahm	
Jungle cat	Happa	Hagrani-maoji	Neju	Ripelen	
Jungle bamboo	Varek	Wai ong		Pashing	
Jack	Ponchung	Kantal	Dangse	Damse	
Jack will make you sick	Ponchang saren Kalima	Nung kantal jabla jobra Janai	Dangse charo mokoro	Damse sanne na won	
Jute	Pata	Patto	..	Somaratcha	
Jaundice	Kangor-biadi	Amai mundong	..	..
Kerosine oil	Keranchi tel	Koranchi Thao	..	Sumakhu	
Bilimbi	Kamranga	Kamringa	..	..
Kuchoo	Lung naksiran	Thadoon	Doo	Too	
Kite	Tooleng	Chila	Tangja	Got	
Kingcrow	Galchipa	Firinga	Chikoki	..	
Khair	Khair	Khoiro	Ta sing		
Lips	Huching	Goshothi	Megoe	Mumchhu	
Leopard	Mash nokra	Lokra	Ji	Zi	
Large she-goat	Mujju	Burma-dhori	..	Rum	
Leg	Chakam	Ateng	Kokkoi	Piemta	
Leaf	Panchak	Belai	Lasu	Dama	
Lime	Chun	Chunai	Churai	Chune	
Lime-box	Chun-tim	Chunai timi	Katua	Timi	
Lightning	Rang ching lap tua	Chala	Tado Lana	Lo	
Lightning has fallen	Sargavagi kaa	Chla gaodang	..	Namcha, kiah me	
Leech	Mushing	Ruadha	Tima	Pep	
Lizard	Tiktiki	Nonema	Jula	Sela	
Large black nut	Gonga chasmar	Musrum Gosam	Deleng	Cycoma	
Large bamboo for posts	Borobasha	Wasum	Pasing	Pashing	
Long pepper	Pompunet	Chimpri	Pimpri	Pipili	
Large grass-hopper	Kook	Gooma	Surujai	..	
Long grass	Haprang	Thurai	Kekring	..	
Left hand	Jugsi	Nagchi	..	Leh yen	Nera
Loss	..	..	..	..	Hani
Lave	Ha-muchingi	..	..	..	Moche
Mouth	Hatang	Khaoga	Noohgung	Dao	
Monkey	Kawai	Mukkra	Nokka	Pya	
Mongoose	Neoal	Neolii	Jingbo	Zem	
Musk rat	Mochot Mushum	Injot chika	Juijah	Thinji	
Mouse	Machot pumer	Injot Goloi	..	Pechi	
Mustard oil	Bishwar-tel	Bishwar Thao	..	Pega-makhu	
Molasses (gur)	Metai	Metai	..	Korom	

APPENDIX VI—contd.

<i>English</i>	<i>Garo</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Rajbansi Bengali</i>
1	2	3	4	5	6
Milk	Moshu-nonono	Dudo	Yoti	Oom	
Marrow	Huthlung	Melem	Noonghe	Kahn	
Mango	Bochot tei	Thei goj-ao be-tai	Taise	Ambi	
Mango tree	Bochot fang	Thei goj-ao Bing fang	Taiting	Ambi shi	
Mother	Ammii	Ai	Aeu	Ai	
Mother's brother	Amma	Amai	Kuku	Azhan	
Mother's brother's wife	Maini	Anai	Mami	Anni	
Mother's younger sister	Iti	Adai	Maosi	Am	
Mother's elder sister	Akai	Aiong hinj-ao	Maosi	Am	
Mother's elder brother	Mamma	Ammi	Kuku	Azhan	
Moon	Rangret	Nokabar	Tari	Dao	
Morning	Munafini	Phungjani	Hahkong	Ngaru	
Mosquito	Shosha	Thampoi	Janga	Bemu-kana-ring	
My mother is old	Enami budi	Angneaia buri bi	Aeu mereng puna	Agi ai gem yim	
My father is old	Enawa burao	Angne appa briibii	Appa varang	Agi akku gubyin	
Myna	Myna	Mynah	Moinah	..	
Milch cow	Moshu-mujju	Moshoo-gie	Pikah chohe	Pah	
Matches	Salai	Salai	Salai	Metik	
My body aches	Kansha	Angni mudum chadung	Tuchana	Ngi zu su kyab vin	
My feet ache	Cha kam sha	Ateng munnibo chadang	Kokoituchana	Ngi kam su kyab kin	
My head aches	Da kam sha	Angha k h a r o chadung	Podongtuchana	Ngi go su kyab me	
My stomach aches	Ok sha	Angha Udi chadung	Lemachichana	Ngi pho su kyab me	
Met	..	..	..	Pyetpo	Lagal
Most busytime	..	..	..	..	Bahaner-din
Make friends	..	..	..	..	Shoki koro
Manured land	..	..	..	..	Sarna mati
Nose	Nukang	Goomtong	Nabboh	Nha	
Nails	Chiskar	Nashigoor	Kushing	Suim	
Nice looking (as applied to land)	..	..	..	..	Dhol dhola
Now	Tei	..	..	..	Ela
Night	Far	Hor	Lishong	Numoo	
Otter	Huddr	Motam	Nang ga	Chusam-zyan	
Onions	Piaji	Piaji	Pid	Gobmap	
Orange	Santra	Santra	Santra	Chiloom	
On meeting a friend the salute is "Where did you go"	Nung hin li thoa	Nung bujung thanga	..	Cheo-katejo-nim	
Olive	Jalpai	Jalpai	..	..
Oodal or Udla tree	Harpakfang	Udla	Saodi	..	
Our	Adh pun	Boinibo	Kongo	Chuchat	
Put up a fence	Chekor tung nega	Thati dum	Barrah ya kaao	Raochu	
Pig	Vak	Ooma	Pakka	Phap	
Porcupine	Kantel	Mudoi	Debe	Pidhuem	
Pine-apple	Bengal-ponchung	Supari-kantal	Supra	Lhi	
Pumloe	Jambura	Gora-jamri or Burbura	Kaose	Shahum	

APPENDIX VI—contd.

<i>English</i>	<i>Garó</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Rajbansi Bengali</i>
1	2	3	4	5	6
Pain	Sha	Chadung	Tuchana	Sun	
Plantain	Lak-tai	Thali	Eungpi	Nga-lha	
Plantain tree	Lyfang	Lyfang	Eungpi	Nga-lha-donphu	
Phalsa	Phirsa-tei	Phirsa	..	..
Papeya	Thul Mul	Thul mul	Churmur	Kungchung	
Pipe	Fuski	Sarni-chelem	Kainja	..	
Paddy	Micharan	Mi	Mabe	Reh	
Pipsa fly or das	Dingdo	Dangso	Doya	Chappi	
Pungent	Bora	..	Teina	..	Dak
Plantain-bark	Likakop	..	Beckoong	..	Kolar-dhona
Peacock	Mora	Daodi	Pekong	Magja	
Puberty	Bantai	Joholao	Wangtegangna	..	Gabur
Pigeon	Piro	Paro	Paroi	Phudon	
Large rat	Machot Goda	Injot gide	..	Pichi	Phour
Ring-worm	Hat	Dadu	Dadua	Datu	
Ripe plantain	Laktai pug-mum	Thali gomun	Eungpiming na	Nga-lha-chochop	
Rhinoceros	Gandai	Ganda	Laka	Suru	
River	Chiko-jhor	Daema	Tihana	Juckchu	
Rain	Rang	Noka	Vathi	Chap	
Rice	Mirong	Mirong	Unku	Chum	
Red pumpkin	Bath-halu	Khaklao	Pargu	Kakru	
Rice-beer	Chakot	Jao	Eu	Arra	
Rupee	Taka	Taka	Tanka	Ngen-lang	
Red tree ant	Hisha	Khyi-ama	Matring	..	
Rule or custom	..	..	..	..	Wadda
Rotten	..	..	..	..	Ghulie
Right hand	Jagra	Nagda	Dangkring	Lab-yep	Bhath-khoa
Round	Goglot	..	Lututumi		Chakati
Round pepper	Morchikar	Jati morich	Muri	Phorih	
She-goat	Purun-mujju	Burma-panti	Echama	Rum	
Sun	Rashan	Shan	Sani	Nim	
Squirrel	Krat	Mandeh	Teiju	Jy-am	
Spotted deer	Machok-genga	Khutia pagla	Khutia pagra	Shao	
Shew me the road	Ana-lam-tonak	Angko lama dinti	Nangta isho	Lhum-nga-lo-tum	
Shew me the short road	Ana lam katal tunak	Angko lama kha-toi dinti	Nangta appe isho	Nga-lhum-thung-ku di tue	
Sickness	Manchetwa	..	..	Natcha	Kahil
Sick	..	..	..	Nawa	Napara
Scanty, shrivelled	..	..	..	..	Chochor-mochor
Tiger	Masha goda	Missa	Koogah	Tak	
Thigh	Chafong	Phenda	Vybe	Ledum	
Tooth-pick and dress pin	Dath-khekta	Shu	Pach-chu	Sorho	
Turmeric	Haldi	Haldai	Eungba	Yeung	
To milk	Moshu-non-shep	Dudo awa	Euti elo	Oomzjo	
Tooth-ache	Fatong shaa	Hatai Chadung	..	Soune	
Tamarind	Thintil	Thethli	Pingpri	..	
The forest is on fire	Forestevi var ha-moo	Forest Kamdung	Shyshingbari me	..	
The forest is burnt	Fores var valamoa	Foresk hambai	Chunglo	..	
Tree	Pan	Dong phang	Singe	Shing	

APPENDIX VI—contd.

<i>English</i>	<i>Garo</i>	<i>Mech</i>	<i>Toto</i>	<i>Bhutia</i>	<i>Rajbansi Bengali</i>
1	2	3	4	5	6
That man is a thief	Umra chor sai	Obe mansia she kao	Akwa kuding	Miphi di aoe me	
The road is bad	Lam sarcha	Lawa Udea	Nantai duhimi	Lamdisobme	
The road is full of elephants	Lamai neplao toa	Lamas migded dongsois	Nantaita hathi nina	Lamdi lung bu Kan dub me	
Thunder	Rang grima	Noka kramdang	Ding bauna	Doog	
This is good	Emra nema	Gham	Engtana	Di lesheim me	
This is hot (pungent)	Emra bora	Embe allovi	Teina	Di chao me	
This is bad	Emra sarcha	Be Udea	Doomi	Di sob me	
Small-pox	Lam man thoa	Bontai jadung	Nga-tuna	Doomne	
Son	Sha-banthi	Bicha	Chung	Puchu	
Sit down	Itong	Jao	Eung	Sa den	
Star	Lithin	Hatodhki	Puima	Kam	
Star is falling	Lithin iug dangao	Hatodhki kha- langbi	Puim buina	Kam puim me	
Snake	Dupu	Jibao	Puia	Bew	
Salute	Selao-thoa	Khuhm	Nangrake	Chha wan phu	
Salute (on meeting an elder brother)	..	Ada bujung thanga	Appu hangta haraga	..	
Brother, where are you going	Dada hing li-thoa	..	..	..
Salt	Som	Sunkre	Ngi	Chha	
Spinach	Mooi	Mickri	..	Nho-chot	
Sky	Shargo	Nokrang	Dingbamuna	Num	
Small red ant	Pishak chasmar	Musrungoja	Mala	Cyoksum	
Small black ant	Chasmar pinek	Musrum udoi	Damrai	Gycoma	
Swamp deer	Bhalangi	Bhalangi	Gibe	Shao	
Small bamboo for rafters	Vakai	Wagoboi	Pasing	..	
Sparrow	Bar chuk tao chak	Ghar chaka	Titri	Thephiam	
Stomach	Ak	Udi	Lema	Pto	
Sal tree	Sal faung	Sal	Sysing	..	
Sissu tree	Bur Bur faung	Khuiroh	Angsing	..	
Sick	Kalam etwa	Jobra	..	..	Na-para
Soft	..	..	..	..	Thol-Thola
This house is good	Ingao nema	Embe noa gha moindong	Sha ing tami	Khim de lesheim dao	
This house is bad	Ingao sarcha	Be noa udea	Sha duhimi	Khim di sob me	
That woman is good looking	Umichik jua nema	Ebe hinj-aoa mo- jang	Meme ingtami	Am chu phi di lesheim me	
That girl is pretty	Umichal jua nema	Be hinjao chen- gria mojang	Meme chi ing tami	Am chu di lesheim doo	
To sneeze	Hinshitoa	Hachudung	Nakina	Achi	
Thine	Nini	Nungni	Natko	Chent	
Tooth	Fathong	Hatai	Shitang	Soh	
Tongue	Telai	Chalai	Lebek	Cheh	
Thread	Hunting	Kundung	Sangdi	Kinb	
To go	..	..	..	..	Jenari
To weed	..	..	..	..	Jabor-pare
There	..	..	..	..	Uthi
To-morrow	Ganan	..	..	..	Ara diu

APPENDIX VI—contd.

English	Garó	Mech	Toto	Bhutia	Rajbansi Bengali
1	2	3	4	5	6
The man who is selected to drop water at time of marriage on the bridegroom	..	..	..	..	Pani-chita-bap or Ful-banda-bap
The shradh ceremony of deceased parents	..	..	..	..	Koina-got
Then or afterwards	..	..	..	..	Shela
Vulture	Sogan	Segun	Segoon	Chagot	
Very low land in which water remains	..	..	..	..	Gagla-bhui
Vegetable curry made only with water	..	..	..	..	Nabri
What is your name	Ni Ni atmung dun	Noung ni munga ma mounng	Na ming higa	Chen-ming-ka-ji-mo	
Will be born to-day	Ting jarna	Dinni Gofaini	..	Tatto kini me	
Women's sari	Kambang	Dokna	..	..
Who are you	Nang chang	Noung saro	Naharanga	Chu-ka-im	
Who set it on fire	Var chang sobia	Sor sawa	..	..
When will you arrive	Nang biba faia	Nang mabla faca	Hothrang wang-naga	Chu-nom-lheb-im	
What is your daughter's name	Nini sha michik at mung	Nungni bisha joni mung-a-ma-mounng	No chime min biga	Che pom mu ming kaji mo	
Well	Chua	Daekhor	Chua	Angko	
Wood	Rup-pan	Bon	Singe	Shing	
Water leech	Eloo	Bedlao	Berdeng	Chu-pep	
Wild potato	Han	Tha	Ling	Che-na-kiwa	
White pumpkin	Chal komra	Gongar khaklao	Tokra	Kakru kap	
Wild yams	Ool	Ollodod	..	..
Water	Chika	Doi	Ti	Chu	
We are well	Ning athpen	Jung-gha moin dong	Thang che pu nive	Nga cha lesheim yen	
We are sick	Apan kalam etwa	Jung boiheo jobra jadung	Thang che mo-kaina	Nga cha nao eing	
White ant	Hahan	Ricoon	Boieng	Kyomakapo	
Where did you get that gun	Bunduk bi bonga	Nung be silaia mao munna	Sela i hangta mung naga	Cho tobdu di ka le thob um	
Wild dog	Bera	Chikoo	Doma	Nakhi	
Wild dogs kill deer	Bera machok kakao	Chikoo moi Var-dung	Doma vaia shana	Na khi shao seh yin	
What is your son's name	Nini sha buntai at mung	Nungni bishan munga mamoung	No chiwa ming higa	Chu allo di ming kate su yin	
We have got fever	Ath pam kalam etwa	Jung boibo lum-jadung	..	Ngacha chleh nayin	
Weighty	..	..	..	..	Sadol
Widower	..	..	..	..	Ari
Widow	..	..	..	..	Bidwa
You go, I am coming	Noung ti li ang te linga	Noung thangdo ang-da-phoini	Naga lili hapu Kanunu lele	Cheu-jo-nga hon-do	
Younger sister	Anao	Bina nao	Ing	Sim	
Younger brother's son	Vangti-sha	Biaiong	Jitwa	..	
Younger brother	Ajong	Phongbai	Eh	Nuchu	
You	Noung	..	Naga	..	Tui
1	Gosa	Munse	Eoo	Chi	
2	Aning	Munnai	Nih-hu	Nge	

APPENDIX VI—concl'd.

<i>English</i>	<i>Garo</i>	<i>Mech</i>	<i>Ti</i>	<i>Bhutia</i>	<i>Rajdansi Bengali</i>
		3	4		6
3	Atam	Muntam	Soongu	Soom	
4	Biri	Munbri	Diu	Zshi	
5	Bung-ga	Munba	Ngyu	Ngha	
6	Korok	Mundo	Tuu	Too	
7	Sining	Munshini	Niu	Don	
8	Chet	..	Yau	Geh	
9	Ju	.	Kuu	Geh	
10	Chi	..	Thau	Chu	
11		..	Egaru	Chuchi	
12		..	Baru	Chuni	
13		..	Chuson	Soom	
14		..	Chuji	Chuji	
15		..	Chenga	Chungha	
16		..	Churu	Churu	
17		..	Chudon	Chabdon	
18		.	Chabji	Chabji	
19		..	Chugu	Chugo	
20	Rungsha	..	Chuniso	Nisthamba	
30	Rungshichi				
40	Rung ning				
50	Rung ning chi				
60	Rung tam				
70	Rung-tam-chi				
80	Rung-biri				
90	Rungbirichi				
100	Rung bonga		Nakai	..	
200			Takai	Shao ughi	
300			Chongakai	Shao sum	

APPENDIX VII

PROVERBIAL SAYINGS IN THE WESTERN DUARS

[Extract from D. H. E. Sunder's Settlement Report]

Relating to cultivators

- (1) Utam krishi, madam ban.
Dhik chakri, bhek nidan.

Cultivation is best, trading comes next.

Service is hateful, and begging is the last resource.

- (2) Dhane dhan ar adhek gai.
Jad kinchit sona rupa.
Ar sakale chhai.

Paddy is wealth, and half a man's wealth is cattle.
Gold and silver are of little value, and everything else is ashes.

(This is the second version).

- (3) Dhane dhan, ar sakale chai.
Kinchit kinchit sona rupa,
Ar kinchit don gai.

Paddy is wealth, everything else is ashes. Gold and silver are of little value, and cattle are a part of wealth.

- (4) Jar bari chotrur dike ghure ish.
Tar bari akal sandibar na pae dis.

Famine cannot find entrance into the homestead of an industrious cultivator.

- (5) Baro sase giri.
Kame katone tri.

A good cultivator is one who grows many crops, a good woman is one who always works and is busy.

(This couplet is used towards industrious people).

- (6) Dhan, pan, gie.
Eha ghore thakile karo duar na jie.

If paddy, betel-leaf, and cattle be in the homestead, it is unnecessary to go to the door of any other person.

- (7) Char jaega na rae pani.
Char putro na dhare bani.
Char des ni bandwa.
Char bharja doo charoni.

Abandon the land where water does not remain.

Abandon the son who is disobedient.

Abandon the country where you have no friends.

Abandon the wife who is a bad woman

- (8) Char khech khechi mao.
Char Ghech keta dao.

Abandon a mother who is always finding fault.

Abandon a blunt dao (bill-hook).

- (9) Joisto masote nia dewar Girjane Gadirir hoilo korohal.

Gadirir kandone Indro ail saji kulo bodur akul poran.

Assar Masate Indro barse dhare.
Kimate bachim moi jora mandir ghare ?
Sravan masate ghano barsan bari.
Sayane sapane jano purae murali.
Bhador masate jano mache dhore bhati.
Britae garab kore tri kala nari.

When frogs make a noise in Joisto month it is a sign that rain will fall.

When frogs cry Indro (king of rain) prepares to come down, and then cultivators do their work rejoicing.

In Assar month rainfall is heaviest. How will I live without going out and buying and selling ?

In Sravan month rain falls in big showers, and the sound seems during waking and sleeping like the playing of a flute.

In Bhadro month fish are caught in the lower end of a stream.

And at this time a woman's talk always proves untrue.

- (10) Baper chaie beta sian,
Puche puche ne gian.

A son is wiser than his father,

He questions and obtains knowledge.

- (11) Jar kaj taheke saje,
Omno gele lati baje.

Everybody should attend to his own duties,

If another interferes trouble follows.

- (12) Daoa, jigini, tetul tal.
Ki karite pari ami Sona mukhi biral.

I am a yellow-faced cat, what can you do Daoa, jigini, tetul and tal trees.

(The above named trees are considered to bring misfortune to a cultivator, whereas a yellow-faced cat is believed to bring good fortune.)

- (13) Rajar dose raj nasta,
Dharti kape dhore,
Trir pape purus nasta,
Bhat nai tar ghore.

A kingdom is ruined by the faults of a king and the ground shakes like an earthquake. By the faults of a woman a man is ruined and there is no food in his house.

- (14) Keba dhan keba pan,
Keba akal bande an.

People get rich by selling paddy and by selling pan (betel-leaf).

Sharp people get rich by stealing.

- (15) Churi, dari, hingsa,
E tin kormo charia,
Jata kormo koribar,
Icha.

Theft, adultery and jealousy.

Give up these three vices,

And do everything else.

- (16) Akarma lok tin karma dharo,
Bhog, ni'ra, rag bore.

A lazy fellow is best in three things,

Eating, sleeping, and displaying temper.

- (17) Eli meli na khie kaman porosi ?
Mach jo na nage to kaman borosi ?
Dima jo na pare to kaman has ?
Gaja jo na nikele to kaman bas ?

What sort of neighbours are you if you are not friends,

What sort of a hook is it if fish do not stick.

What sort of a duck is it if it does not lay eggs.

What sort of bamboo is it if it does not throw out shoots.

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- (18) Raja hoie na kore judi rajjer bichar,
Putro hoie na kore judi pitar udar,
Tri hoie na kore judi swamir bhagoti,
Ei tin pape shristi jabe adogati.

If you are a king and do not attend to the duties of your kingdom,

If you are a son and do not attend to the wants of your parents,

If you are a wife and do not attend to the comfort of your husband,

If these three sins be committed, ruin follows.

- (19) Madh, mangsa karia chaikan,
Ekhan tarona kariho tui,
Kandis ki karan ?

In youth you ate and drank,
Now in old age be thoughtful,
Why do you cry.

(Advice to the aged.)

- (20) Dhan, jan, dharani, karo nae,
Jakhan jahar jimmae take,
Takan tahar hoe,
Ar hole karo baper nae.

No body has any title to wealth, a wife and property,
They belong to him who has them only so long as he is in possession,

At any other time they belong to nobody.

- (21) Pita hoite putro hac,
Putro hoite nati,
Se hoile mite loker,
Abes piriti.

A son comes from a father, a grandson comes from a son, seeing this a man's mind is satisfied.

- (22) Boider kasula mao,
Kamarer bhatara dao.

A bard's (medicine man) mother is always sick.

A blacksmith's dao (bill-hook) is always blunt.

- (23) Chagar banda bhije mata,
Tatir chawa galae kheta.

The house of a thatcher always leaks,

The child of a weaver always wears torn clothes.

- (24) Pikarer chawa na chine dari,
Kaiter chawa bhodar gali.

The child of a trader does not know a pair of scales.

The child of a kait is always a dunce.

- (25) Aine o dhaine hoiche jus,
Ihate pritima ba ki hoe buj ?

There is conflict between law and custom,

What will the result be ?

- (26) Raja hoiche uda shin,
Proja hoiche bolo hin,
Ghare ghare milbe dangadar,
Raja hoibe bolo hin,
Proja hoibe uda shin,
Ghare ghare milbe dangadar,

The king is powerful and

The people are weak.

Hence dissatisfaction prevails in every house,

The king will become weak and

The subjects will be strong, even then dissatisfaction will prevail

- (27) Puruser pape dhan khae,
Strir pape ghar jie.

Wealth is lost by the faults of a man and

A home is ruined by the faults of a woman.

- (28) Thage nasta kare gao,
Ar bap ma nasta kare chawar nao.

A village is ruined by a Thug,

And a child's name is ruined by its parents.

- (29) Dhan, jan, jaoban,
Nisi sopan.

By death every thing disappears like a dream.

- (30) Ek marde nam dakie Delhi,
Ek marde nam kanchie khuli,
Ek marde ke maia mare,
Ek marad kotie sare.

Some men are known up to Delhi,

Some men are known only within their courtyard,

Some men are abused by women,

Some men are known to nobody.

- (31) Man bhalo nai thirtho kore.

Bhuter begar khatie mare.

If a man's mind be in peace there is no necessity for him to go on pilgrimage which is working for the devil.

- (32) Agiane korile pap.
Gian hole sare
Giane korile pap.
Sangi na nare.

When a fault is committed in ignorance, correct it when you know it.

When a fault is committed intentionally it is unpardonable.

- (33) Thager thak thak.
Chorer hi phi.
Udhek luccha je.
Tar chele chota nai.

A thug is always robbing.

A thief goes here and there

The man who is licentious,

Has no child or family or resting place

- (34) Sonne ashe, sonne ji.
Sonne bande ghar.
At teng, solo hatu.
Gardhane kamar.

It goes from one side to the other,

And builds its house in the middle.

It has eight legs and 16 joints,

And its waist is on its shoulder.

(A riddle regarding the spider)

- (35) Rajar dando anat bas,
Baiair dandi pontat gas.

The order of the Raja drives one into the jungle,

The wife's order makes one eat stale rice.

- (36) Raja hae kare bal,
Jai baddi kamer phal.

Being a Raja you display power,

Such is fate !

APPENDIX VIII

THE TOTOS OF TOTOPARA

A. MITRA

Excluded from the President of India's list of seven scheduled tribes in West Bengal, the Toto suffers an anonymity which is wholly undeserved. He has the unique distinction of belonging to a very rare race; it lives in only one village in the wide world, has a spoken language of its own, and numbers only about 325 souls.

The Toto is truly unique. Anthropologists are in two minds about his origin and they do not quite know from where he came. He is different from the Bhutias, the Garo, the Mech, the Rajbansi, among whom he lives in Jalpaiguri. He lives in just one hamlet in Totopara of thana Madarihat. Totopara (J.L. 13) has an area of 1,996.76 acres or 3.12 square miles but the hamlet in which the Totos live and their lands would not measure more than three-fourths of a square mile. The rest is terai scrub, undergrowth and forest and a second hamlet of Nepalis. There used to be two hamlets a few years ago but one was given up and the ruins of huts can still be seen as one enters the mauza by the one road through the middle of it. The road itself is overgrown with weeds and bracken even in December.

The two of us, Mr. J. C. Sengupta, the Subdivisional Officer of Alipur Duar, and I began the day (16th December 1950) rather auspiciously at Saudamini Tea Estate near Kalchini by getting up at 4.30 and making an elephant ride to Nilpara Sanctuary to have a look at the rhinos. We were rewarded with the sight of a rhino mother and her baby at an uncomfortably close range, uncomfortably because we had want only disturbed a Bengal tiger at about six feet, whose habit it is to shadow a rhino baby, waiting for a split second's chance to lift it when the mother is not looking. A cold sweat on a cold December dawn was not too bad after all and off we went to Ramjhora Tea Estate past Hantupara. We arrived at Ramjhora at 8.30 in the morning. The Manager of the garden was good enough to lend us two elephants and guides, and we took off at 10.30, rather late, because we had planned for 9.

We motored down four miles to the eastern extremity of Hantupara garden and mounted our elephants. Then we set our north by north-east up the dry bed of the Holong, which runs parallel to the Torsa. We went past Ballalguri village at 12.30 and arrived at Totopara at 2.15. This road seven miles in all, fairly straight, mostly went through uninviting scrub and thin forest, but as we neared Totopara the jungle became dense, and the road worse. The entrance to the mauza was marked by the ruins of abandoned huts, at which sight my heart sank because Sunder in 1894 had reported that there were only 36 houses left of the Totos. But presently we came to a small clearing and heard human voices, and on to a bamboo enclosure with a gate, outside of which were four shops of Marwaris and Biharis with heaps of oranges and grocery like matches and condiments. There was also a miserable cloth shop.

We went through the gate into a broad grassy road running through the entire length of the village, at right angles to which, at regular intervals, on both sides ran lanes on either side of which were bamboo huts on machans. The huts had straw thatches for roofs and one could climb on to the machans either up a single log leaning at an angle with notches cut into it for foothold. The log was detachable and meant to be drawn up at nightfall. The first impression was one of cleanliness on the public pathways and garbage around individual huts, but we soon discovered that it was the chickens and pigs that made the impression of garbage and not actual filth.

We drew up to the middle of the village and climbed on to the deck or open machan of a hut and were immediately surrounded by a friendly, inquisitive crowd. Our census supervisor who had joined us at Ballalguri acted as interpreter and my questions were quickly and fully answered. The women kept at a distance, but there was no segregation of the sexes. A swarm of children played about but made little noise.

The Totos claim Totopara as their ancestral home, but have a tradition of having migrated from somewhere else. In 1901 they were shown as animists and numbered 72 males and 99 females. In 1911 the census recorded 125 males and 110 females of whom 56 males and 48 females declared themselves as Hindus. The Totos were not shown separately in 1921 or 1941. In 1931 they numbered 334, of whom 130 were males and 204 females. In December 1950 I found 71 Toto huts of which 4 had 2 living rooms each, and the census return in March 1951 showed a total population of 314. In 1951 Calcutta returned three persons speaking the Toto tongue. The population shows if anything, a slight upward trend.

They live on a high land close to a thin stream which supplies drinking water. To the east of the village is what they call Badoo hill, where their god Ishpa lives. Their houses are built on posts, about 5 feet off the ground, and usually consist of one room about 12 feet by 8, with an open deck or verandah about the same size where all the tackle, baskets, etc., are heaped. Underneath are chicken hutches and a pit where the goats and pigs huddle. There are pigeon-holes under the roof.

Physically the Totos are robust and strong, brown skinned, and resemble Bhutias in features and dress, but wear fewer clothes than Bhutias. Their faces are broad and flat, with small, oblique eyes. They wear few ornaments. Men wear no earrings but a necklace made of blue glass beads, which is called tisha. Women wear skirts in the Mech fashion and (1) earrings called niha, (2) necklace called tisha, (3) bracelet called earing and (4) ring called kei. Very little silver is worn and the value of the ornaments which a woman wears will not be more than 15 rupees. All of them are unwashed in their persons and majority have caries through eating of ill-cooked food and chewing of enormous quantities of raw areca nut and the leaf of a weed which they call pan. Children frequently suffer from scabies. I was not competent to detect any indisputable case of leprosy. Sunder alleged leprosy in 1894, but if there were many cases of leprosy in 1894 the closed community would have many lepers now. During sickness puja is done and offerings are made to Ishpa. If the sick recover, it is believed that Ishpa was satisfied. If the sick die, more offerings of meat and drink are made in order to appease the wrath of the deity. The dead are always buried.

They have twelve months corresponding to the Bengali calendar. The names are Karti, Agai, Puimashe, Mamashe, Paguimashe, Choite, Bashamashe, Jitomashe, Assu, Savai, Badoimashe and Singamashe. The month, counted from moon to moon, starts on the 3rd day of the bright fortnight. The bright period is called Tarri bonna, tarri meaning the moon. Full moon is chichenga, and the new moon is Tarrish kue. The day is divided by Totos according to the height of the sun. There are seven days in the week, Sunday called Hini, Monday—Jukung, Tuesday—El, Wednesday called Yae, Thursday—Bie, Friday—Duri and Saturday—Nari.

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Their food is rice, Chura (parched rice), milk and Dahi. Not every family keeps a cow. I saw about ten cows in the settlement and about a dozen calves. The meat of pig, deer, fowl, duck, pigeon, goat, peacock, fish of all kinds and rhinoceros is eaten. Cow or cows killed by tiger or leopard used to be eaten, but the elders wistfully said that now that they were Hindus living in Hindusthan they have given up cow's flesh. The blood of pig is cooked with vegetable curry; salt, oil and butter are eaten. Women may eat the same things as men. When they run out of rice they eat boiled marus and kaoni which are perhaps more nourishing. They have two meals at dawn and dusk. Children eat with either parent. They have earthenware cooking utensils and a few wooden bowls. They have wooden or bamboo glasses called poipa out of which they drink water or liquor. The fermented liquor is called Eu, the preparation of which is simple. Water is boiled in an earthen pot into which kaoni is poured and half-cooked. It is then allowed to cool when Bakro (or yeast) is put in to ferment for three or four days after which it is taken out, whenever wanted, mixed with warm water in a soung (wooden bowl), strained through a jitoong (bamboo sieve) and served in a poipa. Men, women and children drink Eu which is feeble intoxicant but a healthful drink supplying vitamins.

Indifferent cultivators, the Totos however keep a kitchen garden to every house, which they carefully fence round with bamboo and in which they grow greens, bananas and a number of areca nuts. They are now growing small quantities of potato. There is a number of mango and jack trees in the village but no orange. Women assist in cultivation. Men and women work in the field, the only agricultural implement in use being the Gusu (the straight bill-hook). There are no ploughs and no draft cattle. Trees and jungles are cut down with the gusu, and as soon as dry are fired and reduced to ashes; the unburnt timber is set aside for firewood, and after the ground has cooled, marua and kaoni are mixed together and sown broadcast. The sowing of kaoni and marua is done in Jeyt (May-June) and the crop is reaped in Bhadoi (August-September). Very little rice is grown and almost all the rice is bartered or bought. A field cultivated this way naturally looks wild and weedy, and I could make out a cultivated patch only when I was shown one. The yield must be poor and a family's field is not more than two acres.

The mango and jack crops are mostly bartered for rice with the Meches. In the winter Totos buy oranges from Doyapara in Bhutan, from orange groves belonging to Bhutias, about 8 miles away in the Bhutan hills. An orange mart is set up by Marwaris outside the village gate during the season to which the Totos bring the fruit and sell at a small profit.

Women also carry loads of oranges. During the winter months men work for the Meches by splitting bamboos and making thin strips for the purpose of tying thatch and fence of houses. The bamboo strips are made up in bundles and exchanged for paddy.

They have thirteen castes or rather groups of families from which they must select for arranging marriages, the rule of consanguinity being that a man may not marry any woman who is connected to him either on the side of his father's brothers or mother's sisters. It is on this principle that the Totos are grouped into thirteen castes or groups of families: Dankbehai, Nubehai, Linkaitbehai, Dantrebhai, Dikubehai, Butbehai, Badoobehai, Bengabehai, Napangchang-koi behai, Pichchu-changkoi behai, Manchengbehai, Mangtrobhai

and Mangkobehai. A Toto cannot marry more than one wife, nor can a Toto marry anybody but a Toto. A man may marry his deceased wife's younger sister but not an elder sister. A woman cannot marry her deceased husband's brother. On the death of a husband or wife, the survivor must remain single for twelve months, counting from moon to moon, before she or he can remarry. If a young widow has children and remarries, the children are given to the relatives of the deceased husband. Elderly widows having children seldom remarry. Marriage takes place at the age of 12 and upwards. Puberty is said to begin at 16. No money is paid for the girl. She is brought to the house of the parents of the young man. Five or six pigs are killed and about twenty handis of Eu are prepared. Marriage is purely by consent but never broken. There is no divorce. There is no ceremony of any kind except drinking and feasting. All the relatives and friends of the parties are feasted. Property descends to the son or sons and the widow gets nothing.

They have only two gods or dehtas, to whom they make offerings of meat and drink. They are:

(a) Ishpa—who is supposed to live in the Badoo hill and to cause sickness whenever he is displeased. He receives offerings of pigs and cocks. Since cow killing has been stopped, cows are no more sacrificed. Six chickens are offered with prayer for a good kaoni crop. He is offended by offerings of goats, fowls and pigeons. Eu is always offered.

(b) Chima—she keeps the village in safety, from sickness and other troubles. She takes offerings of alua rice, fowls and Eu. A cock and hen are usually her due but in the orange season a pig is offered. The Totos have no Deosi or priest and each man makes his own offerings. They go to the Badoo in the monsoon to worship Ishpa, but he can also be worshipped in the Langang or courtyard of the homestead in the following manner. About one yard square of the courtyard is cleared of jungle and made clean. Plantain leaf is then laid on and uncooked alua rice is put on it and Eu is poured over the leaf. After this some meat of the pig that may be killed and also some of its blood are poured. A fighting cock is sometimes sacrificed. This satisfies the deity. Chima is similarly worshipped but inside the homestead while Ishpa must be worshipped in the open.

When we had done, the oldest man came up and made an obeisance to be followed by the juniors. We were offered oranges and Eu. Gifts of cigarettes from us drew dignified chuckles of appreciation. When we offered to leave they lined up and bade us farewell.

These are some of the particulars about the Totos revealed by the 1951 census. There are unfortunately no literates among them. In a population of 314 only 71, of whom 69 are males and 2 are females: earn and support families. 68 males and 2 females support their families by cultivating lands as tenants and only one male supports his family by working as an agricultural labourer. Most Totos have of course of subsidiary income in the shape of fetching and selling oranges from Bhutan and as day labourers. 27 boys and 18 girls were between the ages of 0 and 4, 20 boys and 26 girls were between 5 and 9, 97 men and 97 women between 10 and 44, 13 men and 14 women between 45 and 64, and 2 women over 65.

There were 12 houses of less than 2 inmates each with a total of 21 persons (10 males and 11 females), 28 houses of 3 to 4 inmates each with a total of 101

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persons (58 males and 43 females), 21 houses of 5 to 6 inmates each with a total of 115 persons (56 males and 59 females), and 10 houses of more than 6 persons each with a total of 77 persons (33 males and 44 females). Of the men 69 were heads of households, 78 were sons, 8 younger brothers and 2 grandsons. Of

157 women 2 were heads of households, 7 were mothers, 65 were wives, 10 sisters, 62 daughters, 8 daughters-in-law and 3 grand daughters.

Toto households were classified into 4 groups and an analysis of their inmates is given below :—

<i>Houses of</i>		<i>OTHER RELATIONS</i>												
		<i>Number of houses</i>	<i>Number of persons</i>	<i>Number of males</i>	<i>Number of females</i>	<i>Number of wives</i>	<i>Number of sons</i>	<i>Number of daughters</i>	<i>Daughter-in-law</i>	<i>Mother</i>	<i>Brother</i>	<i>Sister</i>	<i>Grandson</i>	<i>Grand daughter</i>
1		2	3	4	5	6	7	8	9	10	11	12	13	14
(A) 1-2 persons	. . . .	12	21	10	11	6	..	..	..	3	..	..	..	..
(B) 3-4 "	. . . .	28	101	58	43	26	27	16	1	..	3	..	..	..
(C) 5-6 "	. . . .	21	115	56	59	21	33	25	2	3	5	5	..	..
(D) More than 6 persons	. . . .	10	77	33	44	12	21	18	5	1	..	5	2	3
Total		51	314	157	157	65	81	59	8	7	8	10	2	3

APPENDIX IX

THE TEA INDUSTRY IN JALPAIGURI

THE INDUSTRY IN 1895

(Extract from D. H. E. Sunder's Settlement Report of 1)

The tea industry in the Western Duars—As the opening out and improvement of the Western Duars and the increase in population here is chiefly due to the tea industry, it will not be out of place to give a short sketch of the history of this important crop, its cultivation and subsequent manufacture into the marketable product we drink, as also of the difficulties and wants of those who are employed in growing it.

The tea industry in this district began in the year 1874-75. The first leases were issued to 22 gardens in 1877, and there are at present 182 gardens in all bearing and manufacturing tea. The total area comprised in them is 139,751 acres. Eleven of the gardens belong to native companies and individuals and are worked exclusively by native agency. The remaining gardens belong to European capitalists, mostly formed into companies.

Tenures under which tea gardens in the district are held—The lands taken up for the cultivation of tea in the Western Duars are held direct under the Government under a set of rules specially framed for the purpose. The latest edition of these rules was published on page 539 of the *Calcutta Gazette* of 2nd May 1894.

At first a lease under the tea lease rules is granted for a term of five years. On the expiration of this period, and on the lessee fulfilling certain conditions,

the lease is renewed for thirty years, and so on for similar periods in perpetuity. No rent is charged for the year of entry and the next first full year. For the following successive years, up to end of the fifth year, the rate of rents varies from 3 annas to 12 annas per acre. On the expiration of the term of the first or preliminary lease, granted for five years, the lands are re-assessed according to the pargana-rates. This rent remains unaltered for thirty years. By the terms of the first lease the lessee is bound to open out 15 per cent. of the total area by the end of the fifth year. If at the end of that year it is found that the required area of 15 per cent. has been opened out, the assessment is made at the rate for rupit land for only that area, and at the rate for homestead or basti for the land occupied by houses, coolie lines, etc. The remaining land is assessed as faringati or waste, as the case may be, at rates considerably lower than rupit and basti. Though in the course of the next thirty years, for which renewed lease is granted, the lessee may have planted all the faringati and waste lands with tea, he is not liable, during that period, to enhancement of rent, which is a great advantage enjoyed by the lessee under the existing rules.

The following table shows the particulars as regards the area paying revenue, the amount of revenue paid, the area held revenue-free, the area granted but for which leases and counterparts have not as yet been exchanged, and the area applied for :

Area actually under lease	AREA PAYING REVENUE AND THE AMOUNT OF REVENUE PAID									
	5 annas per acre	6 annas per acre	9 annas per acre	12 annas per acre	Area under renewed lease	Total area paying revenue	Total revenue	Area under lease not yet paying revenue	Area granted, but leases and counterparts not yet exchanged	Area applied for but preliminaries not yet completed
1	2	3	4	5	6	7	8	9	10	11
Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
139,751	22,488	6,164	4,523	24,845	78,678	135,698	89,423	3,053	13,205	46,408

How tea is cultivated—The tea-plant (*Thea sinensis*), variety *viridis* and *sinensis*, is raised from seed which is sown in November or December, or perhaps a little earlier, if the weather be favourable and the soil not too damp. The seed beds are carefully hoed and freed from all jungle. Germination of the seed takes place in about a month or six weeks from time of sowing. When a year old, the young trees are planted out and are placed in rows at variable distances from 4' × 4' to 6' × 6'. The plants generally become fit for light plucking during the third year, but they do not attain full maturity until about the fifth or sixth year. Much depends, however, on the nature of the soil and cultivation, timely rainfall, and good management, which, of course, includes the provision of a sufficient staff of coolies for hoeing and keeping down jungle. Leaf plucking begins in April and continues to the end of December, when pruning commences and is carried on till the end of February. Hoeing is very necessary at intervals throughout the year, and negligence and delay

in this respect cause injury to the plants. The enemies of the tea-plant are musquito, red spider, and green fly. An attack from these pests does considerable damage.

Description of plant most common—The plants most common in the district are the hybrid species; but during the last few years indigenous Manipur and Assam seed have been much in use. China plants are found in some of the older gardens. This is not a good species. Manipur and Assam indigenous seed have been found more profitable up to date. Some gardens which had been planted out with indigenous seed are now supplying seed of good and fair quality, but how long this demand may continue is uncertain.

Soil—The soil best suited for tea is the reddish or dark brown loam which is found in the lands of the northern taluks of the Mynaguri, Falakata, and Alipur tahsils, along the Bhutan frontier; but any soil that is light and friable, but not actual sand, is good for tea,

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but may not be lasting. Stiff, clayey soil does not do so well.

Manures used for tea cultivation—Anything like exhaustion of soil is unknown at present in the tea tracts of the Western Duars. The soil in the northern taluks is extremely rich and fertile, and the outturn per acre is seldom less than 8 maunds. In the best gardens the outturn per acre is usually 10 maunds or more. In old gardens, which were opened when little was known of the district, the lowest yield per acre is $4\frac{1}{2}$ maunds. Bone-meal has been purchased from Jalpaiguri Jail, and used as an experiment in one or two of the old gardens, and cattle droppings are regularly utilized in two or three old native gardens for the purpose of improving the tea bushes; but the success or failure of the measure has not been made known.

Manufacture of tea—The process followed in the manufacture of tea in the Western Duars is as mentioned below :

Plucking of leaf—The plucking of leaves from the bushes is done chiefly by women and children. Men are used only when necessity arises. They gather the leaves in a bamboo basket which is supplied to each of them. The basket hangs over the back of the plucker, and is supported by a plaited grass or cane band which is passed over the person's forehead. The weight of leaf expected from a woman for a day's pay is from 12 to 20 lbs. For every pound of leaf plucked over the day's ticca, the garden pays the plucker 1 pice. Payment is made sometimes daily and sometimes weekly. A woman who plucks well is often able to earn Rs. 2 or Rs. 3 a week in addition to her regular pay.

Working hours—The hours for work are from about 7 A.M. to 3 P.M. each day of the week, except market day, when only the most industrious go to work. In the cold weather and during the rains, however, plucking work is done till about 6 P.M. with two hours' leave during the day; but coolies who finish the day's work early leave early.

Earnings of coolies—The plucking season begins in April or sometimes earlier, and continues till the end of December. During this period the average earnings of a woman, including extras, is about Rs. 10 a month; but women who are good pluckers have been known to get Rs. 20. A child who is quick and hard-working easily gets Rs. 4-8 a month, and the earnings of a man often exceed Rs. 13 per mensem. Girls and children get a regular pay of Rs. 2-8 to Rs. 3. Women are paid at the rate of Rs. 4-8 to Rs. 5, and men get Rs. 6 per mensem for the days they actually work, excluding any extra work they may do. In gardens which are opening out in Alipur and Bhalka tahsils, viz., between the Toorsa and Sankos rivers, where the price of rice is high, the pay of the coolies has been raised by Re. 1 all round.

Weightment of leaf is made twice a day—(1) at noon and (2) in the afternoon—in presence of one of the garden assistants or the manager. The pluckers occasionally attempt to cheat by showing a larger quantity of leaf than has been actually brought in. This is done by placing stones between and below the leaf. Again, on a wet day, they also steep their baskets containing plucked leaf in a stream prior to bringing them to the scales, in order to increase weight. Another device for increasing weight is to add thick pieces of bamboo or cane to the basket under the pretence of making it strong. But all tricks of this nature are counteracted by making a reasonable deduction from the weight against the plucker.

After weightment the leaf is spread out in the withering house upon long wire trays which are fitted to shelves erected for them. The leaf is allowed to lie there a considerable time. If brought in at night, it lies until next morning. In wet weather, when withering is retarded, the leaf is sometimes allowed to remain on the shelves for nearly 48 hours, and has to be continually turned before it is considered to be fit for rolling. To facilitate withering, however, Blackman's fans are now being used in many gardens.

As soon as the leaf becomes soft and velvety, it is put on a rolling table. Two men are employed at each table. One of them feeds it through the hopper, whence the leaf is carried down between the roller and the table, while the other replaces in machine any leaf that may be thrown out. Rolling breaks the cells of the leaf, and gets rid of a portion of the moisture, retaining, as far as possible, the volatile oils, and this induces fermentation, which is essential in proper manufacture of tea. A twist is also put to the leaf. As soon as the requisite twist is obtained, the rolled leaf is placed on tables and is covered with sheets of wet cloth or gunny. It is then allowed to ferment until it attains a bright coppery colour. After this the leaf is usually passed through the rolling-table for a short time.

The next process is putting the leaf into the firing machine. There are several patterns of this machine, the most used being the Victoria, Updraft and Down-draft Sirocco, and Power. The latest addition to these machines are the Empress and Paragon, which are supposed to do more work than any other. The procedure with the Victoria drier is this : The machine is fed through a hopper which is on the top. Thence the leaf passes downwards on a series of trays which travel on an inclined plane backwards and forward until they reach the discharge opening at the bottom. The machine at this time is heated to a temperature of 250° to 300°. When the leaf comes out at the lower end of the drier, it is placed in baskets or mats which are kept there to receive it. The colour should have changed from coppery to black. If the leaf comes out not fully dried, it is again put through the Sirocco, by which it is finished off. In the Down-draft Sirocca there are a series of 10 or 12 trays, one over the other, which are worked by a lever. The fermented leaf is put into the first tray, which is then raised by the lever to make room for the second tray, and so on. By the time the first tray returns, the tea is fired and should be cured if properly treated.

The leaf having now lost all moisture, and being now dry, is put through the breaking machine. From this the broken tea is carried to the sifter. In this machine there are several compartments with nets of various mesh. As the sifter revolves, the tea passes from division to division and falls through the nets into trays or baskets, after which it is classed as follows :

- | | |
|-----------------------|------------------|
| 1 Broken Orange Pekoe | 4 Pekoe Souchong |
| 2 Broken Pekoe | 5 Souchong |
| 3 Pekoe | 6 Pekoe Fannings |
| | 7 Dust |

Sorted in this manner, the tea is packed, if possible, the same day. If from want of accommodation it has not been closed up in boxes the same day, it has to be finally fired before it is despatched from the garden.

The statement given below has been obtained from the Deputy Commissioner of Jalpaiguri. It shows the outturn of tea during the year 1893 from 182 gardens which existed in the Duars at the close of that year :

APPENDIX IX—contd.

AREA UNDER CULTIVATION IN ACRES

DISTRICT	Number of Gardens		Mature plants		Immature plants		Taken up for planting, but not yet planted		Total	
	1892	1893	1892	1893	1892	1893	1892	1893	1892	1893
	2	3	4	5	6	7	8	9	10	11
			Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
OUTTURN OF TEA FROM GRANTS SETTLED UNDER THE TEA LEASE RULES										
Jalpaiguri	180	182	27,671	33,026	10,598	9,628	29,833	42,942	38,269	42,654
	3		309	296	5	5	47	47	314	201
	183	184	27,980	33,322	10,603	9,633	29,880	42,989	38,583	42,855

APPROXIMATE YIELD IN POUNDS

Black		Green		Total		Average yield in pounds per acre of mature plants		Total number of coolies employed during the year permanently		Total number of coolies employed during the year temporarily	
1892	1893	1892	1893	1892	1893	1892	1893	1892	1893	1892	1893
12	13	14	15	16	17	18	19	20	21	22	23
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	Acres	Acres				
18,136,814	18,388,796			18,136,814	18,388,796	655.444	556.79	66,098	69,328	20,602	21,440
141,814	135,414			141,814	135,414	458.945	457.48	..	..	541	522
18,278,628	18,524,210	..	..	18,278,628	18,524,210	653.274	555.915	66,098	69,328	21,143	21,962

Labour—The castes of coolies employed in tea gardens are Paharias who come from Nepal and Darjeeling; Oraons, Mundas, and a few Kols, who come from Chota Nagpur districts; Uriyas from Ganjam and Sonthals from the Sonthal Parganas Meches, and Garos, and Dhimens, who come from the other side of the Bramahputra, as also a few Bhutias, may also be seen working in gardens; but their number is very few. No labour Act is in force in the Duars. Skilled labour in the way of carpenters, masons, etc., come principally from Purnea and Mozaffarpur districts; a large number of carpenters are Chinamen. The local supply of labour is entirely limited to cultivators, who only work during the cold weather months, and are principally employed on contract in building, clearing jungle lands, brick-making, or cutting firewood. As a rule, these people return to their country or homesteads in March or April to cultivate their crops.

The bulk of the garden labour force consists of coolies recruited from Hazaribagh, Chota Nagpur, and Sonthal Parganas. The method employed to obtain these coolies is to send down sardars or recruiters, who collect coolies from their respective districts, sufficient money being advanced to them to pay their road expenses back to the gardens. Considerable difficulties exist with regard to obtaining coolies in this way, the principal one being the opposition or obstruction caused by professional recruiters or arkatis, who are engaged on their part in recruiting coolies for Assam, Cachar, and Sylhet. The price paid for an agreement cooly landed in any of those districts varies from Rs. 80 to Rs. 120 per head, and as the expenses incurred in transit of the coolies to those districts only amounts to about Rs. 20 to Rs. 30 per head, the profit obtained in this trafficking of human beings is enormous, and has unfortunately led to every form of villany and abuse being practised that human agency can conceive. The Duars sardars and recruiters returning with coolies have to run the gauntlet of the arkatis along the whole route, and a considerable number of coolies who ori-

ginally leave their villages with the object and under promise of being taken to the Duars gardens are lured away by the arkatis and carried off to the Assam districts, to change hands there at Rs. 100 per head and be placed under contracts. Great check has undoubtedly been put on these abuses by the active measures adopted by Government in the past few seasons for protecting the routes used by coolies for travelling to the Duars; but the fear of being transferred by their sardars into the hands of arkatis still makes new coolies of Chota Nagpur and the Sonthal Parganas extremely reluctant to leave their homesteads for work in the Duars gardens.

Condition of the Coolies—The wages of an ordinary labourer in the Duars is not more than 4 annas a day or Rs. 7-8 a month. The tea garden coolies earn double this, as I have mentioned above. In fact their earnings are so great that they often show a spirit of independence and insubordination which tries the patience and goodwill of the managers of gardens very considerably. Frequently the coolies are masters of the situation. Those among them who have the least influence instigate and combine and sometimes give great trouble by causing the labour force to remain within the lines instead of attending to work. The loss by this falls on the garden, and perhaps also on the manager, who, if he fails in any respect and is unable to show a profit at the end of the season, notwithstanding the fact that he may not be blameable at all, is often obliged to vacate his post to make room for some other individual. The loss to the coolies is nothing. Their wants are few; they are comfortably housed; good drinking water is supplied to them; they are furnished with rice from the garden godowns if they cannot procure it in the markets; they are regularly looked after by a Native doctor, often by a qualified European doctor on a high pay; medicines are issued to them free of charge; and many of them are permitted to cultivate land belonging to the garden during leisure hours without payment of any rent. Being so well provided for, the majority of them save most of their earnings, and these savings are remitted

APPENDIX IX—contd.

to their homes through the post office, or are taken away when they return during the cold weather. The money, however, I fear ultimately finds its way into the hands of the mahajan and the money-lender, to escape whom the coolies come again to the Duars as soon as the season for pruning and hoeing begins.

Difficulties of the planters—The most serious difficulty of the manager of a garden in the Duars is the keeping up of his labour force to the required strength. There is a Planters' Association here, but it has hitherto done nothing to prevent the manager of one garden from enticing away and taking the coolies of another garden. Representations have been made from time to time, asking Government to pass a short Act whereby coolies could be compelled to remain in the garden from which they may have received advances and for which they have been engaged, instead of moving on to new gardens. Under existing conditions coolies are recruited for the gardens at very considerable expense, and these expenses are increasing yearly. Owners and agents of gardens have now to send not only sardars to recruit, but have to keep a recruiting establishment of Europeans and Babus for four or five months in the year in Chota Nagpur and elsewhere. These expenses total up to at least Rs. 20 per cooly recruited, of which about Rs. 8 would represent cost of recruiting establishment, and Rs. 12 per head would represent the advances made to the cooly. Of the latter amount some Rs. 7 would be recovered from the cooly. But the difficulty is to either recover these advances, or to ensure that the cooly, who costs so much to obtain, will remain on the garden. The inducement to the cooly is all the other way. He can free himself from all advances by simply going to some other garden in the district, and this frequently occurs. As the law now stands, there is no practicable protection for the planter. Section 492 of the Indian Penal Code has been suggested; but where it has been put to the test, has, for obvious reasons, utterly failed as a remedy. Another great difficulty that planters have to contend against is that, although they are always obliged to find work for the coolies, the latter are not obliged to work when required. The result is that only from 60 to 70 per cent. of the number of coolies on a garden turn out to work in the rains during the manufacturing season when most urgently required, thus frequently causing enormous losses to the factory from the want of labour to cultivate the garden and to pluck the leaf. With regard to the enticements or inducements held out by gardens to attract labour from other gardens in the district, it is by some thought that more might be done by the District Planters' Association through something of the nature of a "mutual agreement" binding on all gardens; but, as shewn above, it is not all a question of enticement, and even if it were, those who have had practical experience know that the "mutual agreement" remedy cannot be worked successfully by the planters amongst a large number of gardens in different interests. "Mutual agreements" are very well if they have got penal laws to back them; but then they cease almost to be mutual agreements. As regards the enticing away of coolies from other gardens, the fault does not lie so much with managers as with the agents and owners of gardens. Small consideration is shown by them to a manager who may fail in his work in any respect. Often he is dispensed with at a moment's notice without being allowed an opportunity of explaining his difficulties. Under such circumstances he is obliged to work his garden in the best possible manner, and to maintain his labour force up to full strength as best he can, even if he has to take coolies from another garden to the detriment of that garden and injury to its manager. The idea of self-

preservation is never lost sight of, and this is, in fact, the real cause of the labour troubles in the Western Duars. The remedy for these troubles is not in the hands of the planters. What is required is a short Act binding the coolies for terms of say 6, 9 or 12 months, safe-guarding them at the same time. Under a simple labour Act of this kind great improvements could, I believe, be introduced to the benefit of master and cooly alike.

Another difficulty of managers of gardens in the district is the want of timber for tea boxes, and firewood for working the tea house engines. Although large tracts of land have been reserved for forests, and suitable timber is available in them for tea boxes, the rate at which it is sold is said to be so exorbitant that it is found to be cheaper to obtain tea boxes from Japan than to purchase timber from the Government forests in the Duars to the detriment of Government. The rates for firewood are also high, and it is cheaper to burn coal, which is obtained from Raniganj, than to buy firewood from the reserved forests.

The third—and at one time a great difficulty in the tea industry—is the want of good roads from the tea tracts up to Jalpaiguri, but this trouble has considerably abated by the opening of the Bengal Duars Railway.

B

THE TEA INDUSTRY IN THE DUARS IN 1911

(Extract from J. F. Gruning's Gazetteer of the District of Jalpaiguri, 1911)

In 1876, two years after the Gazilduba garden was planted, there were 13 gardens with an area of 818 acres and a yield of 29,520 lbs. of tea. By 1881 the number of gardens had increased to 55 and the acreage under tea to 6,230 or, in other words, the number of gardens had more than quadrupled and the area under cultivation had increased more than seven times in five years. At the time of the last settlement in 1892, 182 grants of land had been leased for the cultivation of tea, giving an outturn of over 18 million pounds. The cultivation was very rapidly extended during the nineties, and in 1901 the number of grants had increased to 235, with a planted area of 119 square miles and a yield of over 31 million pounds. The table below illustrates the rise of the tea industry during the last 30 years:

Year	Number of gardens	Acreage under tea	Outturn of tea in lbs.
1876	13	818	29,520
1881	55	6,230	1,027,116
1892	182	38,583	18,278,628
1901	235	76,403	31,087,537
1907	180	81,338	45,196,894

After 1880 the cultivation of tea extended rapidly in the tract between the Tista and Daina rivers, but there was then a check as the country to the east of the Daina was believed to be devoid of water. Mr. C. J. O'Donnell, I.C.S., who partially revised the Gazetteer in 1888, wrote: "This important industry has increased so much of recent years as to change almost completely the physical characteristics of the submontane country over a great area thirty miles long extending from the debouchment of the Tista from the Darjeeling hills to a

APPENDIX IX—contd.

similar point on the Daina river on the frontier of Bhutan. The greater part of the primeval forest has disappeared and mile after mile has been replaced by great expanses of tea-gardens. East of the Daina a similar tract stretches for about the same distance as far as the Rajabhatkhoa forest reserve due north of Alipur. It is remarkable for its waterless character which prevents its occupation for tea or any other form of cultivation. A few springs are, however, found in limestone formations which occasionally crop out on its northern boundary. They are, however, almost immediately absorbed by the surrounding porous soil, and do not again appear on the surface for seven to eleven miles south of their sources." Tea gardens now extend throughout this tract of country and find no difficulty in obtaining an adequate supply of water. Some of them obtain their water from springs in Bhutan and bring it down in pipes, the coolies prefer this method as they have no trouble in getting the water. Water is also obtained from wells, though the level is as a rule lower than in other parts of the Western Duars. The two grants known as Kathalbari I and Hartalguri I were given up by the Chunabati Tea Co. because water could not be found on them, but the reason for this seems to be that there is a large depression between them and Chengmani which drains away the water. These grants have been leased recently to Ambari Tea Company. At Chunabati good water is obtained from wells 65 feet deep, but the coolies seldom use it as they prefer the pipe water. The New Duars garden has a well 65 feet deep; Banarhat gets water at 70 feet and in one part of this garden there is a well which is only 25 feet deep. Gandrapara has a well 73 feet deep and on another part of the garden, two miles away, can get a permanent supply at about 15 feet. The Dalgaon garden can get water at about 20 feet. There are four wells on Palashari II grant and water is found at from 50 to 70 feet.

From the table given above it will be seen that the area under tea nearly doubled between 1892 and 1901, while after this period the extension of cultivation has been comparatively slow. The apparent decrease in the number of gardens is due to the fact that the figure represent the number of grants or temporarily settled estates. The number of gardens is really 103, some of which consist of several grants which have not been amalgamated. Most of the available land in the district, which is suitable for tea, has been taken up and for several years previous to 1907-08 there were no applications for new grants. During 1908 three new grants, each of which measures about 1,500 acres, were leased for tea cultivation. The increase in the outturn of tea since 1901 is due mainly to young tea coming into bearing and to the gradual extension of cultivation on existing grants.

All the tea gardens in the district are situated in the Western Duars with the exception of the small garden of Danguajhar, 4½ miles from the Jalpaiguri town, which is in the Baikantpur estate. In addition to 81,338 acres or 127 square miles actually under tea, the gardens include 154,718 acres or 241 square miles, which have been taken up by planters but have not yet been planted with tea. Much of this extra land is required in order to provide fuel, but a good deal remains, which is well adapted for growing tea, and it is probable that this will be planted gradually, if the prospects of the industry seem favourable and the gardens are able to obtain sufficient labour. Apart from existing grants there is not much more land which is

suitable and available for tea; the district certainly includes large areas in every way well adapted for the purpose, but these are included in the valuable reserved forests.

Since the year 1897 the tea industry has gone through a period of severe depression. The high prices and general prosperity, which were the features of the eighties, and early nineties, led to reckless extensions of cultivation in India, Ceylon, and Java, with the result that the supply of tea became greater than the demand. Prices fell enormously and the position was rendered more acute by the fixing of the standard of exchange and by the crushing increase in the duty on tea which was imposed in Great Britain. The duty has since been reduced to some extent but it is still considerable and it seems hard that the product of a great industry which has been built up by the industry and with the capital of our own country-men should be so heavily taxed while the produce of foreign countries is admitted free or pays only a comparatively small duty. The natural extension of the tea trade, the opening of new markets on the continent, and the success which has followed the efforts to supplant Chinese tea in Russia, America and Australia have resulted in a greatly increased demand for Indian tea so that the prospects of the industry are much more favourable. An important factor in the situation is the planting of rubber trees in Ceylon, which is likely to result in a decrease in the crop of tea produced in that island.

The first gardens opened out in the district were planted with China tea which was for a long time considered to be the only kind suitable. This was superseded by hybrids from the Assam indigenous and China varieties which gave a larger yield and were found to be more profitable. In recent years the favourite varieties have been Assam and Manipur indigenous, the latter of which is the most hardy of all, though the tea produced by it does not possess a fine flavour. The tea gardens in the Western Duars give a good yield but do not produce the same quality of tea as those of the Darjeeling district. The outturn per acre is seldom less than eight maunds and in good gardens averages about ten maunds; the lowest yield per acre is 4½ maunds in old gardens planted with China tea. The soil best suited for tea is the reddish or dark brown loam which is found in the northern *taluks* of the Mainaguri, Falakata and Alipur *tahsils* along the Bhutan frontier; but any good deep soil will grow tea. Shallow soil is of no use as the tea plant develops a long tap root, four or five feet in length, by the aid of which it extracts moisture during dry seasons.

The tea plant is raised from seed which is sown in nurseries in November and December; germination takes place in a month or six weeks and, when about a year old, the young trees are planted out in rows, the distances between the plants averaging from 4 feet by 4 feet by 6 feet. The indigenous varieties give the best return if planted out at distances of not less than 5 feet by 5 feet. The plants are fit for light plucking in the 3rd year but do not attain full maturity until the 5th or 6th year; much depends, of course, on the nature of the soil, timely rainfall, and good cultivation, the latter of which is impossible without an adequate labour force.

The China tea plant grows naturally to a height of about 15 feet; it branches low down and forms a thick shrub. The Assam variety is more like a tree; it has a clean stem for

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some distance from the ground and grows to a height of from 25 to 30 feet. The young plants are first pruned a year after planting, and each successive year they are allowed to grow a little higher until the required size is reached, the object being to produce thick bushes branching from the ground and about 3 feet high. Mature plants are pruned every year and dead wood and unnecessary twigs are cut away; occasionally heavy pruning is resorted to in order to remove the twisted and knotted wood and promote a growth of new clean stems. Pruning is lighter in the gardens in the Western Duars than in Assam where the bushes are carefully cleaned out every year.

The plucking season begins in April, or occasionally, if the weather is favourable, at the end of March, and continues till about the middle of December. The work is done chiefly by women and children, who are quicker with their hands than men, but men are also employed when there is a rush of leaf and it is important to get it off the bushes quickly. The weight of leaf which a woman is expected to pluck in return for a day's pay is from six to ten seers, but it varies greatly in accordance with the season, the method, coarse or fine, of plucking and the class of tea; three times as much leaf can be plucked in a given time from the large indigenous bushes as from the China variety. For every seer of leaf plucked in excess of the prescribed amount, the plucker receives two pice, and it is not uncommon for women, who are good pluckers, to earn as much as Rs. 20 in a month.

The process of manufacturing tea has been so often described that it will be sufficient to give a very brief account of it here. After the leaf has been taken to the factory it is weighed in the presence of the Manager or one of his assistants and is then taken to the withering house where it is thinly spread upon trays and allowed to lie for a considerable time. It is usually withered in 10 or 12 hours but in very wet weather it may take as much as 48 hours and, on these occasions, in factories where there is not much withering space, considerable difficulty is felt in dealing with the leaf which is constantly coming in. Blackman's fans are now used on many gardens in order to facilitate withering. When the leaf has become soft and velvety it is placed on a rolling table and rolled in order to break the cells and bring the sap to the surface so as to induce fermentation; rolling also twists and curls the leaves. The use of machinery is a great advance on the Chinese method of rolling by hand. Fermentation begins as soon as the sap is liberated by rolling, and to complete it, the leaf is spread upon low tables until it assumes a bright coppery colour. During this process the temperature should not be more than 80 degrees (F.). The leaf is next taken to the firing machine where it is passed through a chamber heated to a temperature of about 250 degrees. When it comes out of this machine all moisture should have been eliminated and the colour should have changed from coppery to black. Although it is essential that the leaf should be fully dried, great care must be taken that it is not scorched as this destroys the flavour of the tea. The manufacture is now complete and the tea is sorted into the various grades, known as Broken Orange Pekoe, Broken Pekoe, Pekoe Souchong and Dust, which is done by means of a sort of sieve with compartments of different mesh. After this it only remains to pack the tea into chests which is done by machinery on most of the large estates.

When the tea machinery was started in the Western Duars the coolies employed were Nepalis, but it was soon found that sufficient labour could not be obtained locally. A few gardens, which are practically in the hills, still work almost entirely with Nepali labour, but, as a whole, the Duars gardens are dependent on labour from a distance, the chief recruiting grounds being Chota Nagpur and the Santhal Parganas. The system of working is through *sardars*. A *sardar* receives a commission, usually at the rate of one pice on each *hāziri*, or task, on the number of coolies whom he sends to work daily.

The *sardar* either recruits himself or selects, with the Manager's approval, men from his "*patti*" or gang to send down as recruiters. If he goes to the recruiting district himself he generally takes with him men from his own gang to assist him, and it is usual to select men who have not been long enough on the garden to have lost touch with their villages. The garden advances the railway fares and diet money which are debited to the *sardar's* account. Formerly it was the custom for coolies to proceed by road, but most gardens find it better to use the railway as time is saved and fewer coolies are lost *en route* through desertion or cholera. If the recruiters are successful, the *sardar* benefits by getting his daily commission on the coolies' earnings and he also receives a commission of Rs. 2 to Rs. 5 a head. On the other hand, if a recruiter selected by him fails to return, the *sardar* has to refund the advances made to him. On the gardens it is to the interest of the *sardar* to see that the coolies do a full day's work and that they do not abscond; recruiters in most cases leave their wives and families on the gardens and the *sardar's* generally have property in cattle, carts and buffaloes. The best coolies are the Oraons, from the Ranchi district, who migrate freely to "Bhutan", as they call the Western Duars, whenever they are hard up and wish to earn a little money. Losses are chiefly in Santhal Pargana and Chaibassa recruiting. In one instance, in which there was a loss of about Rs. 3,000, the advances against the coolies ranged from Rs. 17 to Rs. 20 a head with the result that they absconded and the majority could not be traced. An experienced Superintendent considers that coolies will not remain on a garden if the advances on the average are much in excess of Rs. 10 a head. Rs. 500 to Rs. 1,000 may be taken as a fair estimate of the advances on a 1,000 acre garden, including those to local labour, Paharias (Nepalis) and Gharamis. There appears to have been a fair labour force up to 1899, but since then it is said to have declined owing to the competition of coal mines, the demand for labour for the docks and for railway construction, and the settlement of coolies on Government lands in the district. In 1899 a leading company imported 1,400 coolies from Chota Nagpur at a cost of Rs. 2-6-9 a head irrecoverable, and Rs. 10-14-4 average advances, all recoverable from *sardars* and coolies. In 1903 the same Company recruited 531 coolies, the irrecoverable cost a head being Rs. 10-6-1 and the advances Rs. 15-9-3, so that the increase in recruiting expenditure has been considerable.

The impression that the majority of the coolies on any garden visit their homes each cold weather and return after the harvest is over is incorrect. Coolies used to come up for about three years and then take long leave, but nowadays they do not return to their country so frequently as before and show a tendency to settle down. Oraons, in particular, are keen cultivators, and many have taken up land and settled in the district. Generally speaking,

The labour force

System of recruitment

Permanence of the labour force

APPENDIX IX—contd.

on most gardens the bulk of the labour force is permanent, though a certain proportion of the coolies return to their homes every year. As a rough estimate it may be said that 10 per cent. of the labour force is constantly on the move. The Deputy Commissioner, in discussing this subject in 1900, wrote as follows: "Although a certain percentage of coolies move freely from garden to garden, either from a desire for change or belief that change of air is a prevention of malarial fever or some trivial motive, there is always a very considerable residuum, more especially on long established gardens, which does not find it easy to move. In those gardens one finds numbers of coolies who have become practically permanent residents. They have been living on the plot of land for a number of years, and have a house superior to the average found in coolie lines, with a well cultivated plot of land of their own on the garden property. A migration to another garden would entail the loss of all this, and naturally it takes a good to move them. Again, a coolie has taken advances from the garden and has not repaid the money or the garden has lent him money to buy a pair of bullocks, taking the animals themselves as security. This is a very common practice. As long as the coolie remains on the garden the Manager is not likely to be hard on him, but if he attempts to leave for another garden, he could not hope for any consideration. He, therefore, is practically bound to stop where he is."

Labour in the Western Duars is free and the services of the coolies are not secured by any form of agreement; in a few instances coolies were imported from Ganjam under contracts subjecting them to penalties for desertion, section 492 of the Indian Penal Code, but the courts apparently refused to enforce the contracts when the coolies absconded, and the attempt to introduce a penal contract system failed. There is no Government supervision over emigration to the Duars, and the treatment of coolies *en route* to the gardens is not regulated by any special provisions of law. Restrictions exist as regards recruiting in the Tributary Native States, which would otherwise be a fine field for recruitment, and complaints were made some years ago of the attitude of officials in the Santhal Parganas. On the other hand it is admitted that every assistance is given in the districts of Chota Nagpur, which are the principal recruiting grounds for the Duars. With free labour it is unnecessary for Government to reserve the right of inspection, or of interference in the matter of wages, tasks, or the general management of estates. Any abuse of authority would entail its own punishment, as the coolies would desert the estate and would find no difficulty in obtaining employment elsewhere. Coolies in the Duars do not work more than 18 or 20 days in the month on an average. The men work well for about four hours, but if attempts are made to exact much heavier tasks, dissatisfaction results, and the coolies may strike or proceed to other gardens where the tasks are easier. Riots are very uncommon, and the arrival of discontented bodies of labourers at cutcherry to formulate complaints is unheard of. The most serious disturbance in recent years was in no way caused by disputes on the gardens. The price of rice was high throughout 1906 and, after the damage done to communications by the floods of August, it rose to famine rates. The Santhal coolies belonging to the gardens in the vicinity of Dam-Dim and Chalsa united to raid the markets and succeeded in looting the big *hāt* at Batāigol and a few shops near Chalsa railway station. The Nepali coolies were not concerned in the rioting and in several places helped to keep order; some of the Chota Nagpur people joined in when they saw what was going on, but

the disturbance was planned and started by the Santhals. The rioters were quickly suppressed with the aid of the armed police, and the ringleaders arrested and punished. It was found necessary to call out some of the Northern Bengal Mounted Rifles to patrol the *hāts* on the next market day in order to prevent further looting.*

THE ACTIVITIES OF A TEA GARDEN IN 1935

[Extracts from 'ALL ABOUT TEA' by WILLIAM H. UKERS, M.A., Vol. I, pp. 387-80, 392-3 & 393-5-7-402]

Preparation of Land

In opening new land for tea gardens in British India, brushwood and undergrowth are cut immediately after the close of the rainy season. These are burned, and then the trees are cut down, and the stumps, in so far as possible, are pulled out, since they are likely to cause root disease. In parts of Assam and in Darjeeling, a ring is often dug around the tree, and the lateral roots are cut until the weight of the tree itself causes it to topple over. In this way, no stump is left. In many instances, a few trees, preferably those of the leguminous variety, are allowed to stand, in order to give shade. After grubbing out the trees stumps, the land is hoed. Stones and roots are removed, and the soil well mixed. If the garden is on level land, drains are laid out and put in.

Seed—Many Indian gardens have a plot of carefully selected tea, especially cultivated to produce seeds. This plot is removed as far as possible from the rest of the garden, in order to insure it against hybridization. Formerly, this tea was not pruned and, in the case of all but the China plant, grew to its normal height of thirty to forty feet. Of late years, some planters have preferred to prune repeatedly until a shrub some twelve feet high and fifteen feet in diameter, is evolved. This makes the question of fighting easier than if the tree were allowed to grow to its natural height. On other India estates, seed is selected promiscuously from the healthiest plants over a large area.

Tea Nurseries—Land used as a nursery is carefully dug over, and the soil pulverized. All bits of roots, stones, etc., are removed. The nursery is laid out in rectangular beds some five feet wide, with paths between. The seeds are deposited about an inch deep, and from four to nine inches apart. The Tocklai Experimental Station advises that if plants are to be transplanted at the age of six months, the seeds should be five inches apart; for twelve months, eight inches apart; and for twenty-four months, ten inches apart.

Great care is taken in shading, watering, and manuring. The shading is done by means of raised *tatties* of grass or mats. These shades are made of thin thatch spread on bamboo frames some five feet high. All weeds are removed by hand.†

Broadly speaking, there are four varieties of tea bush to be seen in tea gardens in Northeast India: the China;

*For a further description of the labour force in the Western Duars see the "Report on the conditions of Tea Garden Labour in the Duars of Bengal, in Madras, and in Ceylon," by J. C. Arbutnot, Esq., C.I.E., I.C.S.

†H. R. Cooper, "Tea Nurseries." *Quarterly Journal of the Scientific Department of the India Tea Association*, Calcutta, Part III, 1924.

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the Assam, or light-leaved indigenous; the Burma, or dark-leaved; and the Manipuri bush. In the plains districts of Northeast India the large-leaved varieties are preferred. The dark-leaved bush is hardier than the light-leaved Assam bush, and although both yield about the same, the Assam bush invariably gives the better tea. In Darjeeling, where the climate is severe, the China type of bush is preferred. In the Dooars and the Surma Valley, where climatic conditions are often difficult, the dark-leaved variety is favoured, but in the Brahmaputra Valley the light-leaved bush of the Assam variety is preferred.

The tea flower appears any time between August and October, and the fruit takes from twelve to fourteen months to ripen.

The seed is gathered as it falls, and is spread out on a cool floor over night. In the morning, it is sorted over to remove stones, refuse, empty shells, etc.

Seed is usually tested by the water method; that is, the seed is thrown in a trough filled with water, where the dried or partly empty seeds float and are skimmed off. The others are dried quickly. Sometimes the "light" seeds are kept in moist sand for a few days and again floated, when a certain percentage become "sinkers" and are planted, producing good tea plants.

The area which can be planted with one maund-eighty-pounds-of seed, if the lining is rectangular, is shown in Table Number Six. With triangular planting, about 15 per cent. must be deducted.*

Propagation by cuttings or layering has not been successful in India on a commercial scale.

Transplanting—Seedlings are left in the nursery for varying periods. Some planters prefer to set out the tea at six months, others at twelve, and still others at eighteen months. Lines are staked, and the seedlings laid out at regular intervals along these lines. Opinions differ as to the distance advisable between the plants. Much depends upon the quality of the soil and the variety of the jat. Generally speaking, the plants are put out from four to five feet apart; i.e., from four to six feet distant from the nearest plant in any direction. When the lines have been formed, and the distances decided upon, stakes are driven to mark where holes should be dug for the plants; these holes being at least a foot wide and ten inches deep. The land is then ready for the plants.

Although much tea is transplanted by hand, there are several good transplanting implements in use in Northeast India. These insure a proper clod of earth over the roots of the plant. One of the oldest is Jeben's transplanter. The plant is taken up by this device with its surrounding earth, and slipped into a tin cylinder having a movable bottom. The plants are carried from the nursery to the garden. The bottom of the cylinder is slipped out, and the cylinder set in the hole previously prepared. The surrounding space is filled in with earth, and the cylinder removed over the top of the plant. The earth is tamped down gently around the plant. Seedlings of eighteen months or more are too large to be transplanted in this way. Elliott's transplanter, a later and simpler device, employs semi-circular spade, a trowel of similar shape, and about ten carrying tins to each spade. Two men are required, one to use the spade, and the other to place the tins and release the cones from the spade.

*Claud. Bald. *Indian Tea; Its Culture and Manufacture*, 4th ed., Calcutta, 1922.

Nursery Planting

et Apart	Plants per Acre	Acres per Maund of Seed
4 × 4	2,722	3
4½ × 4	2,420	3½
5 × 4	2,178	4
5 × 5	1,742	4½
6 × 6	1,210	7

Hoeing—In most tea districts of Northern India, hoeing is practiced. The soil around the young plants is frequently loosened to a depth of three inches for a distance of some twelve inches around. While the tea is young, and weeds are able to grow quickly on the uncovered soil, it receives both deep hoeing and light hoeing. At the beginning of the dry season, deep hoeing is undertaken. A depth of eight inches is aimed at, but seldom attained. Every six weeks, light hoeings—about three inches deep—take place. The object of the light hoeing is to keep down the weeds. During the monsoon, when the weather is forcing all plant growth, the weeds often get the upper hand. In Southern India, where the soil is more granular, less cultivation is required, and clean weeding is the rule.

In 1922, extensive cultivation experiments were started at the Poeklar Experimental Station and, although this work is still in progress, all the results point to the fact that it is the harmful effect of the weeds, rather than the beneficial effect of stirring the soil during cultivation, that influences the tea crop. Accordingly, it is becoming the custom to let the sides of the bushes grow so that they cover the soil, and tend to keep down weed growth. It has been found that such a procedure not only reduces the need for hoeing, but also keeps the soil in good tilth, approximating jungle conditions.

Motor tea-cultivators, designed to cut down the expense of hoeing, have been introduced into India, but have yet to prove their practicability.

Shade Trees and Windbreaks—The shade tree most commonly used on British India tea estates is the ordinary Sau, or *Albizia stipulata*. It gives a light, even shade, although in some districts it requires topping. The falling leaves form a valuable manure, and act as a mulch on the surface. It is deciduous, losing its leaves from December to January, and flushing again from April to May. In many districts its life is twenty-five years.

Following the Sau closely in popularity is the Koro, or *Albizia procera*, which has the advantage of keeping free from canker longer than the Sau. The Bor medeloa, or *Dalbergia assamica*, also does rather well but is late coming into leaf. *Derris robusta* is sometimes used as a shade tree. It will grow almost anywhere. Dadap, or *Erythrina lithosperma*, is used generally in South India, but not in Northeast India, where it has been proved that it encourages root disease. The *Dalbergia sisso* and the *Albizia lebbec* are also in common use.

In South India, a much used shade tree is the Ceylon Sau, or *Albizia moluccana*, which has a large leaf and grows rapidly. In fact, it is so leafy and bushy, if left to grow naturally, that it commonly does damage to surrounding tea. It is nondeciduous, bearing its leaves through the cold weather, and hence its dense shade and consequent heavy call on the reserves of soil moisture mitigate against its use in Northeast India.

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All of the trees mentioned are leguminous, but non-leguminous trees sometimes are used in South India. These include Silver Oak, or *Grevillea robusta*; the Nahor, sometimes called Nagessar, or *Mesua ferrea*; and the *Ficus* species.

Perhaps the commonest bushes used for windbreaks in South India are the several varieties of *Dalbergia*. Their dense evergreen foliage makes them particularly effective. The silver Oak, *Grevillea robusta*, also is planted extensively.

Green Manures—The use of green manures is well-nigh universal in British India, which is particularly fortunate in having a large number of *leguminosae* indigenous to the country. Green manures may be divided roughly into trees, shrubs, and herbaceous plants.

As mentioned before, the *Albizzia stipulata*, or Sau tree, is planted as a shade tree, and at the same time acts as a green manure. Other varieties of the same tree family also are used. The *Dalbergia assamica* has been specially recommended for its suitability in certain sections of the country.

The principal shrubs in use are *Tephrosia candida*, commonly known as Boga medeloa, and in Darjeeling as *Boelclara*; the *Cajanus indicus*, or Arhar Rahar; the *Sesbania aculeata*, or Dhiancha; the *Sesbania corymbosa*, or Jyanth; the *Indigofera dosua*; the *Indigofera arrecta*, or Natal Java Indigo; the *Desmodium polycarpum*; the *Desmodium tortuosum*; the *Desmodium retroflexum*; the *Leucana glauca*; and the *Clitoria cajanifolia*.

In the case of the herbaceous annuals used for green manuring, the plants are raised from seed sown between the tea and dug into the soil when a few weeks, or months old. The plants ordinarily used for this purpose are the different species of *Phaseolus*, such as *Mati Kalai*, or *Kalai dal*; the *Vigna catieng*, or cowpea; the *Glycine hispida*, or soya bean, sometimes called *Bhot mas*; the *Cynaeopsis psoraloides*, or *Guar*; the *Crotalaria jauncia*, or Sunn hemp; and the *Crotalaria striata*.

Other Manures—Except in special cases, fertilizers usually are applied to tea in India every year or every second year. This is done in the spring. The manures are spread broadcast at the time of the first light hoeing and are hoed in. Often, if certain bushes are backward, a quick-acting nitrogenous manure is specially applied.

Practically every type of manure in the market is used on tea. These include: Sulphate of ammonia, nitrate of soda, calcium cyanamide, oilcakes, blood meal, fish manure, animal meal, steamed horn meal, skins and sinews, sardine guano, sterilized animal meal, superphosphate, bones, basic slag, Belgian flour phosphate, Algaricum flour phosphate, ground Sunghbhum phosphate, radiophosphate, saltpetre or nitrate of potash, muriate of potash, cattle dung, and lime.

Fertilizers sometimes are rotated, one of the systems being:

First year—Phosphate and a quick-growing green manure, such as the cowpea.

● Second year—Nitrogen and potash.

Third year—*Boga medeloa*.

Fourth year—The prunings of *Boga medeloa*, deeply hoed in.

Formerly it was thought that, when circumstances made it necessary, an application of lime should be made the first year, after which the fertilizers were rotated, making a five-year rotation. Latterly it has been established that lime is never required on a tea soil. Any soil not definitely acid can be improved by a dressing of ground sulphur. Nitrogen is the most important factor. The cheap soluble artificials are mostly favoured.

Mulching and Top Dressing—In some cases, it is inadvisable to break up the surface of the land, and mulching is resorted to. Leaves and other vegetable matter are spread upon the ground. They serve to protect the tea in the hot, dry season by conserving the soil moisture, and the material as it rots becomes good manure. However, this practice does not obtain in N.F. India.

Although a rather expensive process, top dressing has been found an effective means in India to improve the quality of poor land. If a rich bed of soil or peat exists near by, good soil is secured, and the work is done at some time when there is less work than workers. The depth of the top dressing varies, but frequently is about three inches. As much as 500 tons of earth to the acre may be applied.

Pruning—Pruning is done by means of a curved knife with a blade four to eight inches long, according to the type of pruning required. Opinions differ as to the age when tea should first be pruned. Some begin as early as six months after planting; other as late as three years. More often this is regulated by the amount of growth. The first pruning frequently consists in cutting the main stem as low as six to nine inches from the ground, always provided there are side branches below this. These side branches are cut off at about fifteen or eighteen inches from the ground. The second pruning is to a height of some fifteen to eighteen inches, the plants being cut straight across. Succeeding prunings are similar, each being about two inches above the previous cut.

Heavy pruning in India means cutting near the ground to a height of nine to fifteen inches. This is done only at intervals of about ten years. It causes a reduction of crop for that year amounting to a loss of as much as half the crop for the season, and on the hill gardens, a loss of two-thirds to three-fourths.

Collar pruning is the most drastic type of pruning, which some tea scientists believe is never needed if the bushes are properly treated. It should not be necessary in any case in less than twenty years. Many planters will have nothing to do with collar pruning. Collar-pruned bushes may be cut at any place up to eight inches above the ground. Some planters have adopted a method of scraping away the earth and cutting just above the spread of the roots, but this method is less popular than it was twenty years ago.

In India, the ideal is to prune each bush on its merits, but generally the unit is a field, or section. The usual form of bush is that with a flat surface, although some planters prefer the sugar-loaf, which involves side pruning and plucking.

"Skiff" pruning, or "switching," is done but cutting off the tops of all the shoots a trifle, whether the bushes be high or low, weak or strong. One system of doing this is to furnish the coolie with a measuring rod marked at a certain place. This rod is placed against each bush and all the growth above the mark cut off, thus leaving the weaker bushes untouched.

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Closely allied to pruning are such processes as cleaning-out, thinning-out, spacing-out, and the removal of centers. Hope and Carpenter define cleaning-out as a method of pruning which comprises the following five distinct operations :

(a) Removal of all thin, unproductive shoots and twigs.

(b) Removal of dead wood and snags.

(c) Reducing the number of pruned shoots of new wood at the end of the heavy-bearing branches to one or two, the outmost one not necessarily being left

(d) Cutting off the smaller branches arising from the heavier framework of the bush, so as to reduce the branches to comparatively small number of strong ones.

(e) Heading back all stout shoots of new wood from low down to a height of about six inches from the point of origin.*

* Thinning-out comprises operations (a) and (b) only, while spacing-out comprises operations (a), (b), and (c).

The prunings usually are hoed into the soil, unless they consist of wood older than one year. In the latter case, they are burned, for the reason that decaying wood in the soil spreads disease. Buried prunings add to the humus of the soil.

Plucking—In Northern India, when the wind turns and blows cold and dry from the Tibetan plateau, the bushes cease to flush and manufacture stops. In March, the spring flush materializes and the planter watches the bright green color creep over his garden as he prepares for another season. The second flush comes in late May or early June. Teas then made are very tippy and bring high prices. After the second flush, which is a very definite one, the others are not well marked, because the shoots growing from axils below the plucking level in time reach that level and give a continuous supply of the leaf. The plucking season extends from late March or early April until about the middle of December. The number of flushes run from ten to fifteen, although a garden may be plucked from thirty to thirty-five times a year if labor is available—and even weekly during the flushing season.

Plucking may be coarse or fine; close or long. Fine plucking takes off two leaves and a bud, a coarse plucking, three or four leaves. Fine plucking makes for quality. The composition of a shoot is :

Bud	14 per cent. of shoot plucked.
First leaf	21 per cent. of shoot plucked.
Second leaf	38 per cent. of shoot plucked.
Stalk	27 per cent. of shoot plucked.
	<hr/> 100 per cent.

Long plucking means plucking at a distance from the old wood of a bush. Tea which has been heavily pruned must be plucked on a long growth of new wood, otherwise the bush suffers. As the bush gets older, and the top thickens up, the plucking may be made close; i.e., to within about six inches of this wood. Close plucking makes better tea than long plucking, and the best tea is made by plucking close and fine.

* G. D. Hope and P. H. Carpenter, *Some Aspects of Modern Tea Pruning*, Calcutta, 1914.

The general rule for plucking in Northeast India is "two and a bud." Naturally, the severity of the plucking must depend on the health of the bush; but there is more in the problem than that. To mention the word "plucking" at any planters' club is to start an argument; for example, some planters let a bush grow to a certain height, about three feet, and then pluck it level. Others take the first flush, and then raise the height of the imaginary level before plucking again.

After a certain amount of tea has been plucked, a leaf with a dormant bud is formed at the extremity of a shoot, which then grows no further. This leaf is called a *banji*. Whether or not these *banji* leaves should be plucked is a problem still unsolved, but experiments carried on at Tocklai Experimental Station indicate *banjies* must be plucked or the crop suffers.

All plucking is done by hand, usually by women. The practice of putting the plucked leaf into a cloth bag carried in front of the plucker has been frowned upon, because of the tendency of the leaf to ferment. Even in baskets, temperatures as high as 140°F. have been recorded in the center of the leaf. When leaves are thus heated, they turn red. It is impossible to make good tea from a mixture of red and fresh leaf.

To prevent premature withering, it is customary to take the leaf to the factory at least twice a day. Here it is weighed in, either in the original baskets or after being transferred to other baskets or it may be weighed in the field, so that the pluckers can continue their work uninterrupted and thus earn more pay.

Withering—In the Dooars, Terai and Darjeeling, however, where the monsoon weather is rather more humid than in Assam, lofts are in general use.

The leaf house or withering shed may be one of two types. The "chung," or frame type, consists of a series of bamboo floor racks covered with Hessian. The chungs are three feet apart; just enough to allow boys to creep in and spread the leaf. They cover the whole floor except for a center aisle. There may be as many as ten tiers of chungs in a shed. The other type consists of a series of shallow racks of wire netting, although bamboo or coarse Hessian also are used. These racks are built on a slant six to nine inches apart, reaching a height of about six feet.

The newer withering sheds are made of iron; are tin roofed, and fitted with weather board. In some cases, movable mats or blinds are used to keep off the direct rays of the sun, or to shut out the rain. The floors are made of strips of bamboo covered with hessian. This type of leaf house is the most expensive, but general experience shows that it is the best so far as getting a good wither is concerned.

Chung withering is more even than the wire rack method, and the better tea made more than compensates for the extra cost in construction. The leaf is spread thinly. With a wire rack, about nine square feet are allowed for one pound of green leaf; but with a chung a greater area usually is given—sometimes as much as fifteen square feet. The thickness of spreading is controlled by the quantity of leaf brought in and by the spreading space available. Therefore, on many days the spreading is by no means ideal.

When lofts are used, fans are employed. These are of two types, wall fans and centrifugal cased fans. Among the better known makes are the Sirocco cased fan, for erection on the floor; the Sirocco wall fan; the Blackman box-bladed fans, placed in the end walls,

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and exhausting into the open air; the Blackman stream line fan; and the Keith open-type wheel.

The time consumed in withering is from eighteen to twenty hours. Leaf which has been withered in a warm room has a current of cold air passed over it for five or ten minutes before it is swept off the racks and taken to the rolling room.

Rolling—The system of rolling in British India is divided into three parts. First comes light rolling, which continues from ten to thirty minutes. After this the balls are broken in the *kutchu* sorter, or roll breaker. The flat type of *kutchu* sorter is preferred to the rotary type. After this comes forty-five minutes of heavy rolling with about ten minutes of pressure on, and five off; or seven on, and three off. The third rolling is not always given. It consists of a final rolling for about ten minutes after fermentation. The periods vary.

Early in the season, with only part of the machinery in use, the tables often revolve at a speed of about eighty revolutions to the minute. The usual speed, however is seventy to seventy-five revolutions per minute. In Darjeeling, they are slightly slower—sixty-five to seventy—and in Southern India the rate is forty to forty-five revolutions per minute, with a consequent longer rolling period and a greater number of rolls.

The rolling tables usually are covered with brass plates. After the brass wears out, cement slabs are sometimes used to replace the brass. The work is done by machine, the Jackson Rollers being the most popular. A full-sized machine takes four or five maunds, or 320 to 400 pounds, of withered leaf at a charge; the equivalent of one maund, or eighty pounds, of finished tea. In Northeast India, a modern roller deals with about 1,000 maunds, or 80,000 pounds, of finished tea in a season.

Fermenting—The fermenting room usually is separated from other parts of the factory, but conveniently near the rolling room. It is the coolest place in the factory, being kept under 85° Fahrenheit.

According to the most modern practice, the leaf is spread on cement floors. Plate glass and tile beds are mostly favored in the newer factories. In others, shelves, tables, or tiers of trays may be found.

The leaf is spread from one to four inches thick, according to the season and the condition of the leaf. Quite commonly, it is covered with a wet cloth, which is so spread as not to come in direct contact with the leaf. The time required for fermenting is from two to six hours, depending on climatic conditions. In some of the modern tea factories, the fermenting rooms are being fitted with humidifiers similar to those used in cotton mills. These humidifiers force water under high pressure through a fine jet, and the result is a cloud of water vapor.

Firing or Drying—In practically all tea factories in British India, firing is done by machine. The drying is a continuous process. The leaf is put in at the top of the machine and comes out at the bottom. The hot air enters at the bottom, and the exhaust is at the top; consequently, the hottest air meets the driest leaf. There is a constant falling off in temperature of the air blast, and the fresh, wet leaf at the top is met by a temperature of about 140° Fahrenheit.

The first firing must be to three-quarters dry. A second firing then is carried out, except in Southern India, where tea is often subjected to but one firing. Large automatic machines are used generally for the

first firing, and smaller hand-controlled machines for finishing. The time required for firing varies, but it is commonly about 30 to 40 minutes.

A large machine does work, which, by the old charcoal drying method, would require thirty to forty men to do. In some factories, the machines are so placed that the stoking of the furnaces may be done from the veranda. The method of drying is not the same on every estate. On some, it is the rule to only partially dry the leaf in an endless chain drier, and to finish it off in smaller driers, while on other estates the tea is completely dried in the large drier. It is interesting to note the expressions used in India for designating the various degrees of dryness. The currency of the country is employed for this purpose. There are 16 annas in a rupee; consequently the planter speaks of "12 annas" dried tea to convey the fact that it is 75 per cent. dry.

Some of the best known tea driers in use in India are: the "Sirocco" line, consisting of the Sirocco Tray Up-Draft drier, the Sirocco Up-Draft drier, the Sirocco Down-Draft drier, the Sirocco Enclosed Tilting Tray Pressure drier, and the Sirocco Endless Chain Pressure drier, all made by Davidson & Co., Ltd.; also Jackson's patent machines made by Marshall's Tea Machinery Co., Ltd., in addition to the "Paragon," the "Empire," the "Venetian," "Imperial Venetian," and the "Victoria" machines.

Sifting, Sorting and Cleaning—After firing, the tea usually is put through a cutting machine to reduce the size of the larger leaves. Then it is put through sifting and sorting machines that separate it into grades. The sifting machines in use in British India are of two general types—revolving and oscillating. In both cases, the tea is made to pass over a wire mesh, which is agitated in such a way as to cause as much of the tea as possible to pass through the mesh. The mesh employed usually is of five different sizes, to suit the commonly accepted grades.

As a rule the first sieve the tea passes over has a No. 13 or 14 mesh, and makes about twenty-five revolutions a minute. This separates the Broken Orange Pekoe. The rest then goes on a No. 12 mesh to take out the Orange Pekoe. The balance comprises the Pekoe Souchong, which goes to a cutting machine. The dust is taken out by a No. 24 sieve.

The classes produced are Broken Orange Pekoe, Orange Pekoe, Pekoe, Broken Pekoe, Pekoe Souchong, Fannings, and Dust. Some estates make fancy teas—Golden Tips, Flowery Orange Pekoe, and Flowery Pekoe—but these are not in such general use as the recognized standard grades. There is also the "fluff," which rises from the tea as it is sifted, and settles about the room, to be swept up later. The "fluff" is sold in Calcutta for use in the manufacture of caffeine.

The sorting and cleaning of tea is a long and expensive process. In the best factories, the tea is picked over by hand several times; generally after sifting. This work is done by women and boys. Generally, stalk and other extraneous matter is removed in this way, although a stalk extractor is coming into use.

Winnowing machines are used for cleaning tea. They remove the fiber. After the tea has been graded, each grade including fannings and dust, is winnowed. The only winnowar manufactured solely for use in tea is "MacDonald's deflector." Some planters use ordinary winnowing machines, similar to those used by farmers on grain. In Dum Duma and some other districts of India, the tea is dumped from baskets through the air

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current from an electric fan, thus cleaning the tea and separating it from the fannings and dust.

"Gaping," or Final-Firing—The practice of giving the tea a final fire after sorting, and before packing, to drive off any moisture accumulated during storage, is referred to in different districts as "gaping," "pucca-batti-ing," and "final-firing." During the time that elapses between the second fire and packing, as much as 10 or 12 per cent. of moisture may be absorbed from the atmosphere of the factory. Tea keeps best with a moisture content of under 6 per cent. If tea contains more than this percentage, it "goes off," loses briskness, and becomes flat. There also is risk of moldiness. If tea is too dry, it does not "mellow," but remains with a certain indefinable harshness peculiar to newly made tea. Thus, gaping aims at reducing the moisture content to 5 or 6 per cent., but not more. There is no point in gaping tea already at 5 per cent. moisture content. The apparatus for rapid determination of the moisture content in teas is cheap, the process simple, and capable of being carried out by the average clerk. It may be obtained from any Calcutta chemical dealers, at a cost of Rs. 200-250, and consists essentially of an oven, a weighing-balance, a drying jar, and some small basins. A quantity of tea is weighed into a basin and heated in a steam oven for a few hours. It then is cooled in the drying jar and weighed again. The loss in weight represents the moisture driven off and, calculated on a percentage basis, is an indication whether gaping is necessary, and if so, to what degree.

Bulking and Packing—Following sorting, tea usually is kept in the factory until sufficient bulk is collected to make a "break"—that is, a marketable quantity—and in the meantime it is stored in bins. Usually, it is subjected to a final-firing at about 150° F. in order to dry it thoroughly and reduce the moisture content to 5 per cent.; which is sufficient to allow for mellowing of the tea, but not enough to permit the tea to become moldy.

In bulking, baskets of tea are placed around a canvas sheet spread on the floor, and then are dumped on the sheet, one by one. The pile is turned over and mixed by means of wooden spades.

There are several kinds of packing machines, but all of them work on the same principle; i.e., the chest is shaken rapidly while the tea is being put in. In one machine, the lead or aluminum-lined chest is placed on a platform which oscillates at 2000 revolutions a minute. Another popular packer consists of a rocking table, upon which one or two chests are clamped, and which is subjected to a rapid vibratory movement.

A break of common teas may consist of anything from fifty to 300 chests or more. In the case of fine quality teas, not more than twenty-five to forty of one class make up a break. About two ounces extra of tea in excess of the invoice weight are put in each chest to cover loss by evaporation.

The chests used generally are three-ply; the "Imperial," the "Luralda," and the "Venesta" being popular makes. Some gardens still use board chests of "shooks," made locally; but the extra weight of the chest itself costs as much or more in freight than the saving effected by their use. Three-ply chests are manufactured at Ledo, in Upper Assam. The tea chests are lined with lead or aluminum foil. In some instances where lead is used it is required that the chests be provided with inner paper linings.

After the chest has been packed, a sheet of lead is soldered on top, and the chest is carefully nailed up. Then it is stenciled with the garden mark and the progressive number, after which it is ready for shipment.

Green Tea—Green tea has been made in British India for more than seventy-five years. At one time, it was made in all the tea districts, but the manufacture at the present time continues only in Kangra, Travancore, Sylhet, Dehra Dun, Ranchi, Cachar, Nilgiris, Chittagong, Mysore, Almora, Malabar, Garhwal, and Tinnevely—named in the order of the quantity of green tea each district produces.

The hand process of manufacturing green tea is much the same as that used in China. The late Mr. Charles G. L. Judge, who invented several machines for making green tea, described the process as follows:

The freshly gathered leaf is thrown into iron pans, which are some thirty-six inches in diameter and twelve inches deep. These pans are kept almost at a red heat by stoves burning wood or charcoal as fuel. The leaf in the pans is rapidly turned over and over and round and round by the hand or by sticks to prevent it scorching or burning.

In about three minutes, the fresh leaf is thereby rendered quite soft and the mass reduced to about half its original bulk. The leaf is next removed to the rolling tables, and there rolled by hand; a peculiar twist being given to it, much greater than that required for black tea, as green tea requires a curly leaf.

If there is any sun, the rolled leaf is thinly spread out in the sunshine until it becomes a blackish green, and is very sticky to the touch; or, if the weather is cloudy, the roll is put in mesh trays, or *chabries*, over charcoal fires until it comes to the same condition.

It is then put in smaller iron pans, some twenty-five inches in diameter by twelve inches deep, and placed over a slow fire. These pans are only heated to such a degree that they are too warm to touch. The pans are about half filled, and the leaf in them is kept turning over and over until it has become quite soft again, when it is again taken to the rolling table and rolled for appearance.

When the day's batch has all been rolled a second time, the small pans are filled to the brim, the heat being gradually lowered and the tea is constantly turned about as before for about four hours, until it is almost dry to the touch. If a large percentage of Gunpowder tea is required, the leaf, at this stage is crammed into long, narrow bags of stout fabric and well beaten together until it forms a compact mass. If a predominance of Hyson is preferred, the tea is stored in bins, where it may be left for weeks awaiting the finishing process. This process is carried out in the small heated pans above described. The pans should be heated until just too hot to touch and about half filled with tea, which is worked by hand rapidly from side to side and round and round, until it takes a light greenish tint, which it will do in about an hour and a half. It is then sorted into grades, fanned, and picked. The grades, before being packed for market, are again returned to the small pans and worked in the above described manner, with or without facing or coloring matter, until it has taken all the

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bloom it will take. This takes about two hours, when the tea is ready to pack for market.*

Tea that has been faced is often called "Finished Green" or "True Green," while the unfaced is described as "Unfinished Green" or "Natural Green." The usual material for facing is soapstone, one tea-spoonful being required for four pounds of tea.

Machines have been invented to eliminate much of the hand process in green tea manufacture. Early in the 'nineties, Mr Horace Drummond Deane, a Ceylon tea planter who later moved to Travancore, obtained patents on his steam process of treating the leaf for making green tea. It was not until 1902, however, that the first steaming machines were imported into India. Shortly after, Mr. Judge invented his centrifugal machine to throw off the condensed water from the leaf; i.e., a centrifugal drier.

To improve the color, a green tea finishing and glazing machine also was invented by Mr. Judge. This consists of a hexagonal, revolving drum some four feet in diameter, having a capacity of 600 to 750 pounds. A central stationary drum of copper is in the center, while mesh windows, protected by baffles, afford proper ventilation. Other green tea finishing and glazing machines appeared on the market later.

In Dehra Dun, the leaf is sterilized by placing it in a shallow pan kept hot by a fire directly underneath. The leaf crackles and splutters, and after vigorous turning suddenly settles down. It then is ready for rolling, and must be removed from the pan immediately to prevent burning.

When green tea is made in Assam the process is as follows :

As soon as possible after plucking, the leaf is brought to the factory, where it is placed loosely in a long hexagonal box into which steam is blown for about ninety seconds. The box is revolved at about twenty-five revolutions per minute. Then the leaf is removed, cooled, and dried in a hydro-extractor making about 1000 revolutions per minute. During the process, much liquid is drawn off containing a considerable quantity of solids. About 15 per cent. less than it would if black tea were being made. When the leaf is drained, it is taken from the extractor and opened out, as it cakes somewhat. Next, the leaf is rolled in an open-top roller for about half an hour, after which it is partially dried in an ordinary firing machine to a degree just short of crispness. The semi-dried leaf again is rolled for half an hour. The final firing is done in an ordinary machine at about 180° F.

Green tea is polished by being rotated in a hexagonal box lined with sheet iron. The addition of one per cent. French chalk puts on a polish.

To make the best green tea, hard or *banji* leaf is carefully avoided. The grades of green tea are Fine Young Hyson, Young Hyson, Hyson No. 1, Hyson, Soumeé, Twankay, Fannings, and Dust.

Green tea made by the hot pan process is better than that made by steaming, and in addition, there is no need to centrifuge the leaf, because it never gets wet, thus obviating the centrifuge loss in liquors.

Attempts at Brick Tea Manufacture—Sample lots of brick tea were prepared at one time in Darjeeling

and Kumaon for the Tibetan and Bhutan markets, but none is made at present.

As long ago as 1883, the possibilities of introducing Indian brick tea into Tibet were discussed. In 1905, James Hutchison was appointed Commissioner by the Indian Tea Association to visit China and investigate the process of making brick tea and the possibilities of the market. His report is most interesting.† However, the Lamas have a monopoly of the brick tea trade in Tibet, and have effectually opposed entrance of Indian brick tea into a market already well served from Chinese sources.

THE STATE OF THE TEA INDUSTRY IN 1953

(Extracts from "The Statesman" of 29 June 1953)

(1) The Crisis and After

Towards the end of 1951, for the first time in many years, world output of tea exceeded world demand. This coincided with the world slump in almost all commodity markets following the cessation of stockpiling. The need to work off stocks acquired at the time of the Korean crisis curtailed overseas purchases. The industry, bound up as it is with practically the whole pattern of world trade in tea and hence peculiarly susceptible to fluctuations in that trade could hardly be an exception to such all-round recession.

At about the same time by coincidence the Minimum Wages Act came into force with its inevitable effects on the cost of production. Overseas competition had intensified, exports were down, prices had declined and costs continued to rise. Together these may be said to have constituted the crisis. The industry found itself unable to bridge the steadily widening gap between increasing costs and falling prices.

It was not merely a case of disappearance of profits. To many gardens it meant a struggle for survival. With prospects limited by legislation of various kinds, the number of gardens ready to incur losses for several years in the hope of future gain was small. According to information available, by the middle of February this year more than 100 gardens had closed down in Assam and West Bengal and about 50,000 workers had been thrown out of employment. As against only 30 per cent. in 1951, about 90 per cent. of the estates in West Bengal and Assam incurred losses in 1952. It is estimated that estates in the Dooars alone lost Rs. 5 crores. The industry asked for State assistance.

There were a number of requests for relief but the principal ones were :

1. Reduction and/or abolition of the excise and/or export duties.
2. If these duties are not abolished, deferred payment of excise duty.
3. Relaxation of Section 18-A of the Indian Income Tax Act i.e., deferred payment of Income-tax.
4. Suspension of the Minimum Wages Act or reduction in the level of minimum wages fixed. (The wage bill forms 38.4 per cent. of the cost of production in North India and 44.4 per cent. in South India).

* Charles G. L. Judge, *Green Tea*, Calcutta, 1920.

† Jas. Hutchison, *Indian Brick Tea for Tibet, Report on Mission to Szechuen*, Calcutta, 1906.

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5. Suspension of the implementation of the Plantations Labour Act.
6. Conversion of the food-stuffs concession into a cash benefit, and the State to take over supply of food-grains to labour.
7. Responsibility to cease for supply of foodstuffs to dependents and non-workers.
8. Reduction of freight chargers on coal and other materials.
9. Provision of finance to tea gardens, especially for working capital.
10. Sales tax on tea to be abolished. Anomalies arising from sales tax on tea and on other goods to be removed.

A point that needs to be made in this context is that the requests were not for protection against the normal hazards of international trade but for relief from certain fiscal and labour policies which were operating to the detriment of the industry and were, indeed, serving to subsidize foreign competitive teas.

For some time the Government thought the possible magnitude of the disaster overestimated. It was only when a number of gardens started winding up operations, throwing labour out of employment, that they awoke to the fact that the industry could no longer carry the burden unaided, and that producers should receive assistance in bringing down costs.

Towards the end of May 1952, the Government of India appointed a team of officials to investigate the representations received and advise generally on the relief to be accorded. The reactions of the team called the Rajaram Rao Committee team in regard to each of these requests are set out below :

1. We do not consider that any change in the existing excise, export duty is needed at present.
2. A tentative procedure for the deferred payment of excise duty to meet the industry's request is set out in paragraph 34. (It was proposed that the duty be paid at any time within a week of the end of the month to which the clearances related, not necessarily at the time tea left the factory).
3. The industry's request for the relaxation of Section 18-A of the Income Tax Act has been met. (Instructions were issued to income-tax authorities). Excess profit refunds should be expeditiously made.
4. In regard to the question of revision of Minimum Wages, the industry should make the necessary representation to the States concerned for the appointment of Advisory Committees and Advisory Boards. We would suggest that the anomalies placed before the Team in regard to minimum wages be studied by the Central Advisory Board which the Central Government has appointed. In the interests of all, the Central Advisory Board recently constituted may quickly advise the Governments concerned.
5. We recommend that the implementation of the Plantations Labour Act should be postponed for a period of two years or so, so far as the tea industry is concerned. As soon as prices revive, the improvements envisaged in the Act should be gradually introduced, priorities being fixed by mutual agreement between labour, industry and Government.
6. Government should supply rationed foodstuffs at convenient centres or depots and the tea gar-

dens should only be required to retail these food-stuffs through their shops. The gardens should continue to bear the expense of transporting the foodstuffs from the centres or depots to their ration shops. The legal responsibility for distribution of foodstuffs to the workers should continue to rest on the tea gardens. An additional cash wage, which amount would be the difference between the price paid by the workers at present for their foodstuffs *e.g.*, Rs. 5 in the case of rice, and the price they would have to pay for the rationed foodstuffs at control rates, should be paid to them. The additional cash wage would naturally have to fluctuate with fluctuations in the price of the rationed food-stuffs.

7. It would not be proper to make the industry responsible for feeding workers not directly connected with it.
8. We feel that relief is deserved in respect of transport of coal and other stores to the tea gardens.
9. Commercial banks cannot be expected to tie up their liquid resources in long term capital projects. These are functions of land mortgage banks and the small Indian tea gardens would benefit by forming a suitable co-operative bank. If the Industrial Finance Corporation is to be of assistance to the tea gardens some amendment of its Act is essential to enable it to make advances to proprietary tea gardens.
10. In regard to the anomalies pointed out by the industry in respect of sales tax, they evidently require investigation in the interest both of the trade and of smooth export.

Hardly less important and interesting are some of the conclusions at which the Team arrived. For instance, they reported that there was no evidence for supposing that there had been any deliberate manipulation of prices, and hardly anything to substantiate the allegation that brokers purposely undervalued teas.

The immediate effect of the appointment of the Team was a further fall in prices. Buyers either withheld purchases or offered less in the belief that there would soon be, if not abolition, at least reduction in excise and export duties leading to still more favourable price levels.

The relief recommended by the Team fell far short of the industry's expectations and Government action thereon was even less encouraging. The former has already been dealt with. In regard to the latter, space does not permit detailed mention. A summary should suffice.

In November 1952 with a view to giving some direct and immediate relief to the producers of poorer quality teas who, in their opinion, had suffered most from the recent slump, the Government of India announced exemption from excise duty of all tea covered by the term "tea waste." Teas qualifying for exemption were estimated at 18 million lbs out of a total tea production of over 600 million lbs.

A section of the industry viewed this decision with grave concern. It was feared that the exemption would "increase the gamut of low quality tea in the market with inevitable consequences and might harm the reputation of Indian tea abroad." Events soon proved that those fears were not unwarranted. The Government found that in the process of giving relief to the

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small producer they were indirectly encouraging the export of stalky tea to the detriment of Indian teas' reputation abroad. In January of this year the Government withdrew the exemption.

In December 1952 the Industrial Committee on Plantations recommended to Government that relief as an emergency measure by way of refund of the duty collected should be given as follows:

	per lb.
Cachar, Darjeeling and Tripura	3 annas
Dooars, Terai and Central Travancore	2 annas
Assam and Madras States	1 anna

The recommendation was not accepted. The Government felt that they should not be expected to abolish or reduce export or excise duties while other factors responsible for the crisis were allowed to continue; that such a recommendation called upon the taxpayer alone to shoulder the burden unilaterally, and that it was not wise to grant indiscriminate relief to all gardens in a particular area without due regard to a garden having suffered a loss or not or to the way in which it had been managed.

In April this year the Finance Minister introduced a Bill in Parliament providing for a reduction from three annas per lb to one anna in the flat rate of central excise duty payable on tea manufactured in India at the time of issue from the producing gardens and a levy of a further excise duty of three annas per lb on package tea from blenders and packers at the time of clearance. These changes came into effect immediately under the Provisional Collection of Taxes Act. The intention was to afford direct relief to the tea gardens and consumers of unpacked tea without affecting significantly yield of revenue.

Among the advantages claimed for this arrangement were that the initial financial commitments of the tea gardens would be substantially reduced and that a not inconsiderable section of consumers, particularly of the poorer classes who bought loose tea, would be benefited. The Bill proposed to bring within the scope of the new excise duty all tea lying in stock on April 15, 1953.

The question of conversion of foodgrains concession into suitable cash equivalents has not been easy of settlement. At the special meeting of the Tripartite Standing Committee on Plantations held at Shillong on February 27, although there was general acceptance of the principle of conversion, no agreement could be reached on the exact quantum of compensation to be paid. The Government of India considers that the question of conversion of foodgrains concessions is mainly a matter for direct negotiation between employers and labour. Reports however indicate that they would view with favour any proposals whereby the foodgrains subsidy might be converted into cash allowances on the basis of the cost of living index, the Government of the State concerned undertaking to supply the estates with foodgrains at controlled rates. In the latter direction the Government of West Bengal and Assam have made some progress; and it is hoped that even more satisfactory arrangements will soon follow.

In regard to minimum wages, the Minister for Commerce and Industry said in Parliament in July 1952 that "it was not the intention to make the position of labour worse than what it was and that if possible it would be made better." The Finance Minister stated that "the recommendations of the Committee

(the Rajaram Rao Committee) would not be such as would hurt labour."

In accordance with the advice of the official team, the Governments of West Bengal and Assam set up advisory committees for considering revision of wages and acted on the recommendations of those Committees.

The problem of surplus labour continues to cause anxiety. The Government of India had under consideration several suggestions. The more important are:

1. Inter-garden movement of workers should be encouraged for adjusting local surpluses and shortages. (This may be done through the Tea Districts Labour Association).
2. Recruitment of outside labour should be stopped and such of the surplus workers as are emigrant labourers should be repatriated in accordance with the provisions of the Tea Districts Emigrant Labour Act.
3. Schemes for the development of cultivable waste land should be undertaken for the purpose of absorbing surplus labour.
4. Cottage industries should be opened so that surplus labour can be gainfully employed.
5. Surplus labour may also be diverted to employment on public works projects.

There has been no progress in the implementation of the Plantations Labour Act. It seems permissible to assume that the Government of India have accepted the recommendation of the Rajaram Rao Committee that implementation be postponed.

The Government have agreed to provide as many wagons as possible for the carriage of coal to tea gardens by the all-rail route subject to the movement of traffic being allotted a higher priority than tea.

Officers of the Ministry of Finance and the Reserve Bank of India studied the question of provision of credit facilities. Credit difficulty, in their opinion, was confined broadly to some 275 Indian-owned gardens, mostly in the north and the north-east, which were financed directly by banks. According to them, the most practical way in which Government could assist was to offer to give a limited guarantee to banks in respect of their loans to tea estates for the next season.

The Government announced a guarantee to reimburse scheduled banks a certain percentage of deficits, if any, in the 1953 crop accounts of both sterling and rupee tea gardens which had been directly financed by them in 1952. The guarantee was not to extend to gardens financed direct by agency houses, whether or not the agency houses, in their turn, borrowed from banks. It was to be limited to 10% of the repayment actually made by the gardens to the bank against the 1952 tea hypothecation account in the case of gardens situated in areas other than Cachar, Tripura and Dooars, and in the case of gardens in Cachar, Tripura and Dooars to 15%.

The object of the scheme was to induce banks to make available for the 1953 season, to such marginal or sound tea gardens as were in difficulty, a higher level of finance than the banks were at the time prepared to provide. It was not intended that the guarantee should be used for bolstering up sub-marginal

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persons. Even in the case of "economic" estates, Government was to insist on suitable safe-guards. The guarantee was not to cover any outstanding loans granted by banks in the past. Banks participating in the scheme were to be asked to obtain mortgage over the tea estates and the estates were to be prohibited from declaring dividends until the loans obtained by them under the scheme had been fully discharged.

The industry's reactions to the recommendations of the Rajaram Rao Committee and Government action thereon are mixed. Deferred payment of income tax, it is admitted, affords some relief to tea growers; but the relief, it is pointed out, is only temporary and does not mean any saving in the cost of production.

Opinion is divided on the levy of an anna per lb excise duty on tea at the time of issue from the gardens and 3 annas per lb on packed tea to be collected from blenders and packers at the time of clearance. One section welcomes it on the ground that it offers growers the very necessary relief of a reduction in initial financial commitments. Another looks upon the levy as highly discriminatory and unwise: unwise because it may have a somewhat repressing effect on internal consumption as the greater part of tea consumed (about 60% of tea consumed in India is sold in packets and the rest in loose form) would be subject to the increased rate of excise duty. According to them it may lead also to a diversion of consumption from packet to loose tea which in turn would cause to close down many of the new firms of this type that have been started in recent years.

"Packet tea," they argue, "carries with it a guarantee of quality, consistency and weight while in the case of loose tea, quality is difficult to control and adulteration is possible". Loose tea traders have protested against these insinuations and have pointed out that poorer quality teas are also genuine teas and are consumed by those who cannot afford higher prices for better teas; and that loose tea dealers sell poor quality tea cheap, medium tea at a medium price and good tea at a good price. The Government of India thinks that the difference in the rates of duty is much too small to lead to any large scale change in consumption from package tea to loose tea.

The industry points out that should packers pass the onus backwards to growers in lower auction prices or forward to consumers in enhanced retail prices, the growers for whom the relief is intended may have to accept lower auction prices and the objective of the Government will not be realized.

By the end of 1952 it was apparent that instead of the large surplus which had been expected earlier the crop would in fact be no larger than it had been a year ago. There was a slow but marked recovery in prices and there is now a stronger undertone to the market than there has been for many months. Forty-two gardens employing a labour force of 39,228 have reopened. (The number of gardens which remained closed on April 15, 1953 was 82 and labour affected totalled 24,262). The situation warrants the hope—the trend is clearly upward—that as the position improves, most of the gardens will be reopened and re-trenched labour will be re-employed.

The quality of teas produced in 1952 showed a marked improvement on that of the previous year. Indian producers are taking steps to put into operation a more selective plucking policy. They will reduce production this year by about 8 per cent. It is the intention to produce only 57 million lbs: 62 million lbs was pro-

duced in 1952. The latterly favourable movement of prices has not modified these decisions and is not likely to till prices are firmly established on higher ground.

Mention must be made in this context of four important developments. The first is that India has withdrawn its membership of the International Tea Market Expansion Board and has, along with Ceylon and Indonesia, entered into an agreement with the U.S. tea trade for tea propaganda in the USA. The U.S. tea trade and each of these countries have agreed in principle to contribute to a joint promotion fund on whose governing body all would be represented. It is proposed to spend \$1½ million this year on a joint effort to promote tea drinking among Americans. Of this amount, the producing countries will contribute approximately two-thirds.

The second is that in view of a fall in demand and its effect on prices India has decided to cut down her exports to 115 per cent. from the standard quota of 130 per cent. (348,216,170 lb) allowed under the International Tea Agreement.

In accordance with the recommendations of the Industrial Committee on Plantations the Government of India have decided to appoint a committee consisting of experts to investigate the cost structure of the industry with a view to suggesting ways and means by which it could be brought into line with the present price level. Investigation into the trade structure to ascertain the true relation between auction and retail prices is included in the terms of reference.

With a view to exercising greater control over the industry the Government have introduced in Parliament a Bill which is a combination of the Central Tea Board Act 1949 and the Indian Tea Control Act 1938 along with certain variations that have been found necessary. It is proposed to establish a Tea Board with functions wider than those of the present Central Tea Board and the Indian Tea Licensing Committee. The enlarged scope of the new Board's activities is to include:

1. Regulation and control of the sale of tea for internal consumption or export, whether by auctions or otherwise;
2. Control over the quality of tea and the issue of licenses to engage in blending; and
3. Promotion of measures for increasing the productivity of labour, including measures for securing safer and better working conditions and the provision and improvement of amenities and incentive to workers.

The Tea Board may also be required, according to any decision of the Central Government, to license brokers, manufacturers or dealers in tea waste.

Withdrawal from the ITMEB has been vigorously assailed. The reasons for Government's action appear to have been:

1. The subscription was a heavy burden on the industry, which was experiencing a slump.
2. Indian representation on the Board's secretariat was very small. The Central Tea Board had virtually no control over the activities of the ITMEB.
3. A desire to organize exclusive propaganda for Indian tea which was not possible through the ITMEB.

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4. With the withdrawal of Pakistan the Board had lost its representative character.

5. Indonesia was in arrears of subscription. Ceylon hence drew a disproportionately large benefit from the Board.

Against these must be placed the following arguments:

1. Withdrawal is inopportune because for the first time in 10 years tea is surplus to requirements and expanded markets are needed.
2. "If the present propaganda experts are to be replaced, such replacement will take time and little economy is likely."
3. "If Indian tea in particular is to be publicised, it will be necessary to revise the world's marketing arrangements which are based on the fact that teas are blended before retail sale. Of Indian teas, perhaps only Darjeeling tea is sold unblended."

In regard to exports, present circumstances seem to justify the reduction in quota. The industry hopes, however, that should there be an increase in demand—with the running down of stocks in Britain and the new arrangements for propaganda in the USA this is possible—the Government will review the position later in the year. The reduction should, however, have the effect of making larger and more representative offerings available for consumption in India.

The industry has welcomed the proposed investigation into the cost structure of the industry. The inquiry may help to explode sundry myths about fabulous profits.

Opinion on the Tea Bill has not yet taken shape. It is believed that much depends on how the additional powers vested are exercised. Greater control, the industry argues, cannot be divorced from greater responsibility. In the past, although the State's earning from tea have been far more than the industry's the Government of India, it is pointed out, have been singularly reluctant to make sacrifices.

That the tea industry has a big contribution to make to the Five Year Plan is clear: but it is an indirect contribution in the sense that the Government will depend upon tea to earn a goodly part of the foreign exchange, in both hard and soft currencies, necessary to finance development at home. The industry is thus an important contributory to, rather than a participant in the Plan.

(II) The Calcutta Tea Auctions

The procedure at the Calcutta tea auctions has been criticized but no alternative method of selling tea has been advanced to replace the system that has been revised by experts over a vast number of years. The auctions provide the producers with the best chance of realizing maximum prices, while the buyers have the opportunity of securing their requirements at a reasonable price.

Like other commodities tea is governed by the law of supply and demand. Therefore when production exceeds demand to any great degree, as in 1952, slump conditions are bound to occur. Similarly, when there is a possibility of a world shortage of tea, which might occur with heavily restricted crops, then auction prices are bound to rise accordingly. But in both

instances the auction affords the selling and buying sections of the trade equal opportunities.

During the season these tea auctions are usually held twice a week; the export sale being held on Monday and the Dust and Internal sale on Tuesday. For these sales brokers prepare weekly catalogues, and invoices of tea are printed for the sale according to their date of arrival in Calcutta. On arrival in Calcutta river-borne and rail teas are transferred into one of the sale tea warehouses set aside for storage of tea intended for sale in Calcutta.

On receipt of the arrival lists from the warehousemen the broker's staff inspect the teas to ensure they are up to standard and that there is no damage and they also draw samples for distribution to the buyers in the trade.

Each tea in the broker's catalogue is tasted and valued against standards of the same type and grade of tea and the catalogue containing full valuations is forwarded to the buyers. A confidential report on the quality of the leaf and liquor of the invoice concerned is also forwarded to the respective seller. Prior to each auction the broker will have obtained his set of instructions from the respective sellers, so that when he takes his place in the auctioneer's rostrum he will be in possession of specific selling instructions or he may have full discretion to sell the teas according to market developments.

Calcutta auctions are conducted under rules framed by the Calcutta Tea Traders Association, which is composed of members of all branches of the trade. At the auction itself the auctioneer sits alone at his rostrum and the buyers are seated in front of him in a semi-circular plan, the tiers of seats rising from floor level to an appropriate height at the back of the hall. There are over one hundred buyers and it is customary for them to occupy the same place each week. As soon as the first lot is announced, buyers may start to bid. Bids are given in rupee currency per pound and buyers are allowed to raise their bids by one pie up to ten annas per lb., by three pies from ten annas to Rs 2 per lb., by six pies from Rs 2 to Rs 3 per lb., and by one anna over Rs 3 per lb.

Each lot offered is composed of one break of tea and as the size of each break may well vary from six chests (each chest containing approximately 100 lbs.) to over 100 chests, it is easily realized that a buyer may not wish or may not be able to afford to purchase an entire big break himself. The buyers therefore divide their purchases among each other. For instance, for a lot composed of 11 chests or less a bidder must accept the whole amount himself and the brokers will send a contract to only one buyer; a lot composed of from 12 to 23 chests, however, may be split between two buyers and a contract will be forwarded to each. For a lot composed of 24 to 47 chests the buyer of the tea may split with two other buyers, three contracts being forwarded; and for 48 chests and over, four buyers are allowed to split and the brokers will forward contracts to all four.

As soon as a lot is put up for sale bidding may be commenced by any number of buyers and the auctioneer will continuously call out the name of the buyer together with the highest bid. Eventually when the seller's instructions have been complied with and it is apparent that there are no higher bids, the auctioneer will knock down the lot to the buyer concerned at the highest price that has been bid. The next lot is available for sale immediately after the fall of the gavel. By this method the auction proceeds at a fair pace and

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An experienced auctioneer should be able to sell lots at the rate of four lots per minute. In this way weekly quantities of over 50,000 chests for export are handled. A system such as this which enables large quantities of tea to be dealt with each week amply demonstrates the usefulness of the Calcutta auctions.

(III) Tea Pests and Their Control

The economical cultivation and production of tea is vitally linked with a proper understanding and application of effective measures for the control of insect pests and diseases which affect the tea plant during all stages of its growth.

The tea bush, like all other plants growing in nature, is subject to attack by a very large number of living bodies, varying from large insects such as crickets and caterpillars, easily visible to the naked eye, down to tiny microscopic organisms represented by various species of fungi which can be detected only by the effects produced on the tea plant. Considerable research work and investigations on the nature of these pests and diseases of tea have been carried out by independent works as well as by scientific organizations, during the past 50 years. The India Tea Association, Scientific Department, Tocklai Experimental Station, have contributed considerably to our present-day knowledge of tea pests and diseases. Rapid strides in the investigations of insect pests and diseases of the tea plant have, however, been made only during the last decade following the advent of DDT and other synthetic plant protection compounds.

A brief description of the major insect pests of the tea plant is given below :

The Cockchafer or White Grub is a beetle which is a menace to a variety of crops in the districts of North Bengal; it was first recorded as a tea pest in 1874. The larva which is found at about 2" below the surface mainly feeds on grass roots and tender roots of tea plants. This is white in colour and measures 4 to 5 cm. long. It is usually curled up and has a swollen abdomen. The adult cockchafer emerges from the pupal case in the month of July.

The control measures recommended are (a) to see whether the areas which are to be planted are infested with the larvae, and if so the soil should be turned over twice, once a month, before planting, (b) grass should not be allowed to grow near the tea plants. At least a clean-weeded circle of 10 inches radius should be kept round each plant. This will enable the larvae to feed on the grass roots surrounding the weeded circle, leaving the bare patch of soil containing tea roots.

The Termite or White Ant is commonly found on tea plants. Although they have been classified under "destructive pests" they do perform a useful service to the planter when they form galleries on bushes after pruning by removing all the dead snags and pieces of dead branch. They are very difficult to control. The best time suited for control is January, Geigy DDT or Hexidole Benzene hexachloride dust formulations is the best way of dealing with them. If the attack is severe, every single bush should be treated with Hexidole dust and the normal dosage recommended is 1 oz of Hexidole 805—5 per cent. BHC dusting powder for every plant.

The Looper Caterpillar is another insect pest which is very well known to tea planters in North-east India. The fully grown caterpillars are of various colours,

grey to dark brown and dark green and they measure 3 inches in length. These caterpillars usually appear in June in an epidemic form. The caterpillar eats away small areas of young leaves and as it grows it develops a preference for the older leaves as well. A fully grown caterpillar will consume 10 to 12 grammes of fresh tea leaf per day. One attack may defoliate a section completely. If the attack occurs in April or May in a severe form the bushes are stripped and just as they have grown another set of fresh leaves, the next generation of caterpillars is ready. The best control method is the timely application of DDT in water-dispersible or emulsion form. The best time for commencement of spraying DDT is when the loopers are 1½" long.

The Bunch or Cluster Caterpillar is one of the oldest pests of tea and may be found on the tea bush throughout the year. The pupal stage is characterized by a golden silk cocoon in which the final metamorphosis takes place. These insects may be found in the form of bunches or clusters hanging down in the frame of the bush during the daytime. They become very active after sunset when they commence biting and devouring the leaves. The simplest method of controlling the pest is by hand-collection of the caterpillars throughout the year by labourers.

The Red Slug is a black moth with a wing expanse of about 2½". Severe damage is sometimes caused by this pest in tea gardens especially when mass migrations of the pest are in progress from one area to another, damaging unaffected tea gardens almost overnight. The pest is susceptible to DDT and when an epidemic occurs it is recommended that DDT suspension obtained by diluting 1 lb. Guesarol 50 per cent. DDT wettable powder with 40 gallons water be sprayed thoroughly on the foliage.

The Helopeltis Theivora, a small, dark insect, is one of the most serious pests of tea. This insect, as pointed out earlier, is provided with a needle-shaped tube, by means of which tissues of tea plants are punctured and the sap sucked up. Helopeltis damage can be easily recognized by characteristic puncture marks on tea leaves. The spectacular control of Helopeltis with Geigy DDT wettable powder is undoubtedly one of the landmarks in the history of tea pest control by the use of modern synthetic insecticides. Geigy 50 per cent. DDT wettable powder is recommended in the proportion of 1 lb powder to 40 gallons water. Sprayed areas should be examined 10 days after spraying and spraying continued right throughout the season. Generally DDT remains effective for about 6 weeks after spraying.

Mites or Acarine: These creatures, although often mistaken for insects, belong to an entirely different class. They have four pairs of legs and have a respiratory system altogether different from that of an insect. The eggs hatch out into forms resembling the adult and undergo transformations, increasing in size, till they finally reach the adult stage.

The main pests affecting tea under this category are briefly dealt with below:

The Red Spider (wood mason) is the most serious pest of tea in the North-east India tea estates. Colonies of this mite may be found in several forms at the same time on one leaf—eggs, larvae, nymphs and adults. The eggs are laid on leaf surfaces and are securely held on to the surface by means of an adhesive secretion of the pest, as a result of which they are not washed off during rain. The maximum damage to tea is generally done during the period March

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to June and gradually decreases with the onset of the monsoon. Sulphur in the many forms in which it is prepared as an acaricide is highly effective against Red Spider on tea; of these, water dispersible sulphur and lime and sulphur are recommended. Two rounds of lime sulphur sprays are recommended to be applied at an interval of two weeks in winter and one week in summer. Recently synthetic acaricides are receiving much attention for the control of Red Spider due to the fact that desirable properties such as high toxicity to Red Spider and non-staining effect on tea may be easily obtainable in this class of compound.

The Pink Mite pest is so minute that it often escapes observation and is one of the most difficult to identify. Sir George Watt, who discovered it in 1895, examined the leaves of tea bushes which had a peculiar "pale and sickly" appearance and found under a lens thousands of the tiny adult mites on a single leaf-surface. Very little is known about the life history and habits of the mite. This mite is susceptible to lime sulphur and a single round of lime sulphur, thoroughly applied so as to cover both sides of the leaves, is considered to be an effective control measure.

Whereas all green plants, including the tea bush, obtain their food by synthesising sugar from carbon dioxide with the help of chlorophyll, fungi are not able to carry out this sugar synthesis and have to obtain their energy by the destruction of organic materials. There are approximately 50,000 known species of fungi of which a large number are beneficial; but a considerable number are serious destructive agents of the tea plant. Fungi possess the ability to produce microscopic reproductive bodies or spores in large numbers and discharge them into the air. When a spore falls on a matter having suitable conditions for its germination, a new colony is set up. An investigation of the following characteristics regarding fungus attack on tea is necessary in order that effective remedies may be worked out:

- (a) Conditions under which a particular fungus disease is likely to attack the tea plant.
- (b) The effect of humidity, temperature, soil and environmental conditions which render the plant susceptible to the disease.
- (c) The chemical compounds of fungicides which are best suited for controlling the particular species of the fungi.

Violet Root Rot: The attack of the parasitic fungus *Sphaerostilbe repens* causes this root disease, the symptoms of which are very characteristic. The sour, sickly smell of the roots, the appearance of yellowish colour and dropping off of fresh leaves and dark blue-black and violet patches on roots are symptoms which lead to an identification of the disease. Generally speaking, Violet Root Rot occurs in areas where there is improper drainage of the soil. The main recommended measures are the maintenance of a proper drainage system, avoidance of deep hoeing and manuring in wet weather and uprooting of bushes which have shed all their leaves and which are obviously dead.

The parasite causing *Nectria* disease attacks the stems of tea bushes and spreads with the help of airborne spores. The stems of tea bushes damaged and torn by hailstorms are the initial spots where airborne spores of *Nectria* fall and commence germinating. The disease spreads downwards to the branch junction or it may even, under favourable conditions, reach the root, causing death of the bush. A good degree of control is obtained by cutting out the attacked stems of bushes

up to 4 inches below the dead portion. The cut out surface of the bush should be treated with a strong solution of fungicide—lime sulphur or copper fungicide.

Red Rust, a parasitic alga, attacks young leaves and stems of tea and its infection period is generally from the end of April to early June. This unique disease of tea differs from all other diseases in being caused by an alga—a plant, and not by a fungus. The characteristic which distinguishes Red Rust attack is the presence of the hairy, orange-red fruiting bodies on the stems. Copper fungicides are highly lethal to Red Rust spores. A water-dispersible copper fungicide (50 per cent. copper content), such as Fungi-copper Geigy, diluted in the proportion of 1 lb. of the fungicide to 40 gallons of water should be sprayed on green tea stems and one year old stems when the Red Rust is fruiting. The effect of this fungicide-spray will have no immediate effect but will bring about considerable reduction in the next year's infection.

Corticium theae-Bernard and **Corticium invisum-Petch**, two species of fungi, cause the Black Rot disease of tea leaves which is characterised by irregular, dark spots on attacked tea leaves. In severe cases, the patches may envelop the entire leaf surface. The attack generally occurs during the period April to June, depending on humidity and temperature conditions. At the end of April, apply a Copper fungicide at a concentration of 1 lb. of the fungicide to 40 gallons of water. Repeat this spraying operation after 2 to 3 weeks. Collect dead and dry leaves and burn them. Remove all prunings from affected sections during Christmas time, have them stacked away and when dry, burn them.

Blister Blight, a disease of young shoots and leaves of tea, has become prominent and a serious pest of tea only during the last five years. During an epidemic, large numbers of airborne spores are produced which germinate rapidly on the wet surfaces of tea leaves and shoots. Attacked bushes will however recover once the invasion is over as dead blisters cannot be revived and the disease has no permanent or resting stage on the bush. To control one avoid by all means early pruning and late manuring. Pruning should not be carried out before the end of November and manures must not be applied after July. As soon as a few blistered bushes are noticed at the edges of a section, remove the blisters by hand and apply Copper fungicide in the proportion of 1 lb. to 40 gallons water, on the section which is on the windward side of the affected portion. Repeat the spraying operation after 1 to 1½ weeks. If a general outbreak occurs, continue spraying at 7-10 day intervals until May.

The table below gives a list of Plant Protection chemicals mentioned in this article for the control of major pests and diseases of tea showing the pests or diseases which they are capable of controlling:

Remedies

Copper Fungicide, containing 5 per cent. metallic copper equivalent (Fungicopper Geigy)

Lime Sulphur—Wettable Sulphur

Geigy Acaricide

Geigy DDT 50 per cent. Water wettable powder

Geigy 16 per cent. DDT & 25 per cent. DDT Emulsifiable concentrates

Hexidole 805—5 per cent. Benzene Hexachloride Dust

Pests of Diseases against which used

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of tea leaves, Nectria, Red Rust, Blister

Red Spider, other mites, scale, Nectria

Red Spider

All insect pests of tea and green crops except tea seed bug

Looper caterpillars, crickets

Mound building termites, kalotermes, cockchafer larvae, flea beetles, young crickets.

(1a) The Packaging and Distribution of Tea

Tea is particularly susceptible to deterioration by moisture. That arch-enemy is closely followed by demons of contamination in the shape of anything with a strong, penetrating odour. The growers pack their tea in boxes lined with lead or aluminium foil, and this early protection is adequate provided the tea reaches the blenders in reasonable time. Delays in transit under monsoon conditions allow heat and damp to work into the tea, and a prolonged hold-up at a port invites serious deterioration from sea air. Great care must be taken over stacking the boxes; if they are placed close to soap or fruit or similar articles, their scent will soon be absorbed to the exclusion of the true flavour of tea. Drop a single clove into a caddy containing some delicious blend, and it will make the contents smell and taste of spice in a matter of hours! Years ago, many a chest of tea in a warehouse lost its value because the night watchman stood his lamp on it, and the smell of the oil gradually seeped through to ruin every particle of leaf.

Until early in the nineteenth century, bulk packaging was the only protection for tea. Supplies reached the shops in chests, and were sold loose to consumers who usually had to provide their own containers. This form of selling led to exploitation by retailers, who often mixed inferior with good tea, and then sold at the price of the latter. Some merchants even went so far as to colour their cheapest teas to obtain higher prices. A still more common way of making profit was to give short weight.

In the course of time, shop-keepers began to provide some form of container, and the firm of Twinings are reputed to have been the first to use printed tea wrappers. It was not, however, until 1826 that a man of vision, John Horniman, saw the benefits to be gained by offering the public a guarantee of weight and quality. He started the packet trade in England, which steadily gained ground at the expense of loose tea. Families ceased to suffer from mother's amateur buying and blending, whilst the change held a big appeal for her too. If she had any complaints, she could obtain redress by going direct to the packer, if necessary, because the latter's name and trade mark were proudly displayed on the label of the packet.

Distribution in packets facilitated sales in small quantities, ensuring freshness of supply. Stockists had only to purchase their requirements for a short period ahead, and it was left to the blenders to hold extensive stocks of all kinds of tea drawn from every producing country. These stocks were stored under perfect conditions and were skilfully blended to keep up a continuous stream of supplies of uniform quality to the shops. Thus, blending and packeting became associated and progressed together. Experienced tasters bought teas at all seasons of the year, and, by clever manipulation of the various growths, maintained constant standards to suit the public taste. Gradually, consumers lost touch with the countries of origin and came to recognize tea by house or brand names.

The earliest packets were either made of lined with, lead foil, after the style of the garden chests, but the technique of packaging has advanced to meet all requirements and local conditions. In tropical countries, the finest quality teas are marketed in tins or special moisture-proof packets. Over the past few years, plastics of different kinds have been brought into use, either in direct contact with the tea or as a wrapper for the packet or carton.

For popular brands at low prices, paper packets with grease-proof linings are used extensively. Very often, the outer wrapper consists of a paper that has been sprayed with metal or is laminated to metal foil. Such packets may be in the form of printed bags, sealed after the tea has been weighed into them, or may be made up on ingenious automatic machines which make, fill and close them in a succession of mechanical operations that ensure correct weight and hygienic packing. Machines fitted with electrical weighing devices are available for all types of tea, and for all sizes from the small tea bag up to 1 lb or more.

The tea bag with its little ticket attached, showing the name of the packer, is worthy of special mention. Made of porous filter paper, and containing just sufficient tea for one cup, it has become popular on the Continent of Europe and still more so in America and Canada. Consumers there are not insistent upon the strength and colour of the brew produced in a teapot and prefer to accept a comparatively weak infusion in return for the convenience of merely dropping a paper sachet into a cup and filling it up with hot water. In fact, the tea bag in America is completely displacing larger packings.

The logical sequel to the rise in brand sales was organized distribution on a national scale. In small countries with highly developed rail and road facilities, it was simple but in India the difficulties were manifold.

As was to be expected, conditions of local supply influenced the siting of the first packing factories. Plants were established in Calcutta because that was the port through which all the tea grown in North India had to pass. Then followed units in South India, erected in or close to the tea-growing districts.

Distributing from Calcutta to the rest of India was comparable with taking Paris as a centre and despatching to places as far afield as Berlin, Belgrade, Naples and Lisbon. In Europe, the problem was easier because delays in transit did not matter much, whereas in India, any prolonged stoppage in the hottest season or the rains threatened damage to freight. Moreover, the railway system in India was becoming unduly strained. Shortage of rolling stock at the end of the war proved a major handicap just when the volume of traffic was growing enormously. Cargoes of imported food grains had to be moved from the ports and, naturally, wagons were not available for traffic of lower priority including tea. Packers were at their wits' end to know how to service their sales depots, particularly in Western India. Coastal shipping was used, but sailings were infrequent and slow.

Calcutta had the added disadvantage of being unsuitable climatically for holding large stocks, and it was inevitable that packers should look elsewhere for development in their own and the national interest. The places chosen for new plants were towns well situated in dry climatic conditions astride rail and road junctions. Stocks are now fed to these factories from Calcutta or direct from the tea-growing districts in sufficient quantity to safeguard them against transport delays.

After blending and packing, tea from the factories fans out to innumerable selling points in towns and

villages. These are the headquarters of the salesmen who, once a week call upon the bazars, hotels and cantons of India, supplying them with just sufficient tea to ensure that their stocks are always fresh.

Until a few years ago, distribution stopped at those towns where a weekly market was held for the district, but now salesmen penetrate into small, remote villages with a population of perhaps a thousand or less. More often than not they have to traverse primitive roads, and do so by using a strange variety of transport, including jeeps, bullock carts, tongas, cycles, camels and ponies.

(v) Modern Developments in the Firing and Drying of Tea

The years of World War II plus the post-war years have seen many drastic changes in the development of "drying" or firing of tea in its process of manufacture, and the object of this brief article is to illustrate how these changes have been effected and the reasons for the adoption of oil firing which is now prevalent in tea gardens.

It is well known that the tea-leaf as plucked from the tea-bush contains about 80% of moisture which has to be "dried off" or evaporated leaving only 20% by weight of dry fibrous product, which eventually becomes the "finished tea." This moisture is reduced in stages, first by a process of "withering" or a natural drying-off process—in some cases mechanically controlled—until about 25% of the moisture is evaporated, then secondly by a heating process in which the moisture is removed by means of hot air.

The semi or partially dried leaf is put through its first stages of manufacture when it is "rolled" and next processed by "cutting" in various stages, whence it goes into the "fermenting" rooms, which is its last stage of processing prior to "firing."

Beyond the above brief description of the initial processing it is not the intention of this article to go into the minute details of primary manufacturing as we are more concerned with the "firing" side of the problem.

The "firing" equipment can almost be said to be standardized in design, because even although there are about half a dozen well-known makes of tea drying equipment the main basic principles of all the machines are the same—the drying of tea by means of hot air under continuous motion.

The use of hot air in this final process of tea-making indicates that some heating medium has got to be supplied for the air, and referring back to very early days of tea-making and leading up to the present, we find many and varied types of heating medium and methods of firing have been adopted viz—(a) direct firing from charcoal stoves; (b) indirect firing from independent wood fired stoves; (c) indirect from both independent and integral type of wood and coal burning stoves; (d) indirect from integral type oil fired stoves; (e) indirect from steam heating the air by means of utilizing exhaust steam, live steam, and augmenting with waste gases of combustion from a boiler plant.

The old methods of direct charcoal firing are now almost extinct and have been superseded mainly on account of the adoption and utilization of mechanized drying on the principles of continuous motion.

Both the independent type and the integral type of air heaters comprise a unit, usually of the tubular type built over and around a stove or furnace. This furnace is usually of large volume and fitted with grate bars which carry the fuel, which has to be used to provide the heat for the ingoing air to the dryer. The waste

gases of combustion from the fuel—wood or coal—pass in specifically designed channels or routes up, over and around nests of tubes carrying the ingoing air—or alternatively may pass through tubes in predetermined sections—and thus give up their sensible heat, before passing away out of the system and up the chimney.

Many air dryer stoves of the older designs in use today are of low-draught type and slow burning, but modern trends are now leaning towards induced draught, which is a mechanized form of taking away the waste gases of combustion from the stove to each individual chimney by means of a small centrifugal fan, power driven,—or from a series of stoves by means of a common waste gas duct to a single chimney by means of a larger centrifugal fan.

This method of utilizing mechanical induced draught as distinct from the "short chimney" natural draught is a distinct improvement as such method removes the waste gases at high velocities and thus enables a greater heat transfer to take place through the tubes or heating medium between the waste gases of combustion and the ingoing cold air, and improving the efficiency of this piece of equipment.

The location of the tea gardens has in the past necessitated firing by wood fuel, which in most if not all cases meant using trees cut up into logs and branches of suitable size to be accommodated in the stoves. The advent and development of roads and railways brought about big changes, and enabled coal as a fuel to be placed at the disposal of the tea gardens. In this respect many tea gardens which found themselves within easy reach of such new facilities were able to avail themselves of these new supplies which proved from a firing point of view to have many advantages over the old method of wood firing.

Firing conditions improved generally and coal was found to have many advantages over wood that eventually wood for firing became of secondary importance, and only those tea gardens which had wood readily available retained such methods.

It has been said with a great deal of truth that "it takes a war to hasten and develop science" and it took a war to bring about a general change and development from "coal" as a fuel to "oil" as a fuel in the tea industry in India. The very definite short supply which eventually ended up as "no supply" of coal in many parts of the tea industry immediately after the war resulted in the early post-war years in a complete change-over on a considerable number of tea gardens, particularly in Assam. It turned out to be fortunate that liberal oil supplies were being made available from Digboi in Northern or Upper Assam and a considerable number of tea gardens came in with a rush for a complete change-over from coal firing to oil firing. A few selected tea gardens had been operating on oil fuel, but the sudden stoppage of coal supplies necessitated a complete change-over to almost a revolutionary extent on other gardens using coal. The war in this case proved to be a blessing in disguise, as complete oil firing equipment and supplies were found readily available from stocks in Calcutta. This enabled a quick change to be made at a very awkward time of the season.

Oil firing can be classified as being perhaps the most modern form of firing in use on tea gardens in these present times, and it is certainly the most efficient and economical. In the first place it is clean as compared with the dirty and dusty atmosphere which always pervaded the old coal-firing shed, secondly no standby firing fuel becomes necessary as was the case when using wood or coal.

APPENDIX IX—concl.

ing also has the very distinct advantage that temperatures in the stoves can be maintained at a steady level without fluctuations once the oil burners are set, resulting in what is termed "a straight line curve" on the recording charts. The benefits of these steady temperature levels are immediately apparent to the tea house "in charge," as he knows that his ingoing hot air is being maintained as also his outgoing saturated air, whichever he is working on.

Oil firing is also a substantial labour-saving device since one man can operate a number of stoves, whereas on coal or wood it required one man per stove plus men for handling the coal or wood, not only in the firing shed but from the main fuel dump on the tea garden to the firing shed. Oil firing requires no such labour and the oil fuel can be brought right up to the oil burners by gravity flow.

Oil firing is also a time saver in that initial lighting up for daily working only requires about half to three quarters of an hour before manufacture of tea commences, instead of about two hours under wood and coal-fired conditions.

It has been suggested that the adoption and use of oil as a fuel has, under present price conditions, added about half an anna to the manufacturing cost of tea, but as against this it may be stated that the quality and finish of the tea has benefited from the steady and even temperatures which must also have facilitated continuous working conditions and increased production or enabled the standard rate of production to be completed in shorter hours. Oil firing for tea manufacture is more efficient than coal or wood which has now been proved in practice and whilst a bar to the use of oil fuel may

be its high cost relative to other fuels and their availability, the advantages which oil fuel offers are sufficient to convert the advocates of economy.

(vi) Mechanical Handling in Tea Industry

Throughout the tea industry today there is a steadily increasing consciousness of the advantages as well as the need of greater mechanical handling facilities.

Mechanical handling is now beginning to be regarded as an all-important factor which should, wherever possible, be given consideration. Recent events have given strength to this argument and in cases where proper mechanical handling has been employed, direct financial savings have been reflected, in not only reducing the number of instances where unnecessary manual handling of materials through the various processes of manufacture had previously been allowed to continue unchecked, but also by saving the valuable time of operators by having materials delivered to them quickly and conveniently, and as efficiently removed.

Unfortunately, large-scale mechanization is seriously hampered by the manner in which a great majority of factories and their adjacent buildings have been laid out and the apparent disregard in the past for anything resembling a production flow whereby the various processes of manufacture could follow one another in a fairly regularized manner.

It must also be admitted that the confused movement of materials from one place to another has been largely responsible for the curtailment of maximum output and the tendency in all cases to increase production costs.

APPENDIX X

JOSEPH DALTON HOOKER'S TRAVEL IN JALPAIGURI DISTRICT (3—14 MARCH 1846)

(Extract from Himalayan Journals, by Sir J. D. Hooker, K.C.S.I., C.B., M.D., D.C.L., F.R.S.)

On the second day we arrived at Jeelpigoree, a large straggling village near the banks of the Teesta, a good way south of the forest : here we were detained for several days, waiting for elephants with which to proceed northwards. The natives are Cooches, a Mogul (Mongolian) race, who inhabit the open country of this district replacing the Mechis of the Terai forest. They are a fine athletic people, not very dark, and formed the once-powerful house of Coochpigoree. Latterly the upper classes have adopted the religion of the Brahmins, and have had caste conferred upon them; while the lower orders have turned Mahomedans : these, chiefly agriculturists, are a timid, oppressed class, who everywhere fled before us, and were with difficulty prevailed upon even to direct us along our road. A rude police is established by the British Government all over the country, and to it the traveller applies for guides and assistance; but the Cooches were so shy and difficult to deal with, that we were generally left to our own resources.

Grass is the prevailing feature of the country, as there are few shrubs, and still fewer trees. Goats and the common Indian cow are plentiful; but it is not swampy enough for the buffalo, and sheep are scarce, on account of the heat of climate. This uniformity of feature over so immense an area is, however, due to the agency of man, and is of recent introduction; as all concur in affirming, that within the last hundred years the face of the country was covered with the same long jungle-grasses which abound in the Terai forest; and the troops cantoned at Titilya (a central position in these plains) from 1816 to 1828, confirm this statement as far as their immediate neighbourhood is concerned.

These gigantic *Gramineæ* seem to be destroyed by fire with remarkable facility at one season of the year; and it is well that this is the case; for, whether as a retainer of miasma, a shelter for wild beasts, both carnivorous and herbivorous, alike dangerous to man, or from their liability to ignite, and spread destruction far and wide, the grass-jungles are most serious obstacles to civilization. Next to the rapidity with which it can be cleared, the adaptation of a great part of the soil to irrigation during the rains has greatly aided the bringing of it under cultivation.

By far the greater proportion of this universal short turf grass is formed of *Andropogon acicularis*, *Cynodon Dactylon*,* and in sandy places, *Imperata cylindrica*; where the soil is wetter, *Ameletia Indica* is abundant, giving a heather-like colour to the turf, with its pale purple flowers; wherever there is standing water, its surface is reddened by the *Azolla*, and *Salvinia* is also common.

At Jeelpigoree we were waited upon by the Dewan, who governs the district for the Rajah. The latter is a boy about ten years old, whose estates are locked up during the trial of an interminable suit for the succession that has been instituted against him by a natural son of the late Rajah. We found the Dewan to be a man of intelligence, who promised us elephants as soon as the great Hooli festival, now commenced, should be over.

The large village, at the time of our visit, was gay with holiday dresses. It is surrounded by trees, chiefly of banana, jack, mango, peepul, and tamarind;

*Called "Dhoh." This is the best pasture grass in the plains of India, and the only one to be found over many thousands of square miles.

interminable rice-fields extend on all sides, and except bananas, slender betel-nut palms, and sometimes pawn, or betel-pepper, there is little other extensive cultivation. The rose-apple, orange and pine-apple are rare, as are cocoa-nuts; there are few date or fan-palms, and only occasionally poor crops of castor-oil and sugar-cane. In the gardens I noticed jasmine, *Justicia Adhatoda*, *Hibiscus*, and others of the very commonest Indian ornamental plants; while for food were cultivated *Chenopodium*, yams, sweet potatoes, and more rarely peas, beans, and gourds. Bamboos were planted round little properties and smaller clusters of houses, in oblong squares, the ridge on which the plants grew being usually bounded by a shallow ditch. The species selected was not the most graceful of its family; the stems, or culms, being densely crowded, erect, as thick at the base as the arm, copiously branching, and very feathery throughout their whole length of sixty feet.

A gay-flowered *Osbeckia* was common along the roadsides, and, with a *Clerodendron*,* whose strong, sweet odour was borne far through the air, formed a low undershrub beneath every tree, generally intermixed with three ferns (a *Polypodium*, *Pteris*, and *Goniopteris*).

The cottages are remarkable, and have a very neat appearance, presenting nothing but a low white-washed platform of clay, and an enormous high, narrow, black, neatly-thatched roof, so arched along the ridge, that its eaves nearly touch the ground at each gable; and looking at a distance like a gigantic round-backed elephant. The walls are of neatly-platted bamboo: each window (of which there are two) is crossed by slips of bamboo, and wants only glass to make it look European; they have besides shutters of wattle, that open upwards, projecting during the day like the port-hatches of a ship, and let down at night. Within, the rooms are airy and clean: one end contains the machans (bedsteads), the others some raised clay benches, the fire, frequently an enormous Hookah, round watted stools, and various implements. The inhabitants appeared more than ordinarily well-dressed: the men in loose flowing robes of fine cotton or muslin, the women in the usual garb of a simple thick cotton cloth, drawn tight immediately above the breast, and thence falling perpendicularly to the knee; the colour of this is a bright blue in stripes, bordered above and below with red.

I anticipated some novelty from a visit to a Durbar (court) so distant from European influence as that of the Rajah of Jeelpigoree. All Eastern courts, subject to the Company, are, however, now shorn of much of their glory; and the condition of the upper classes is greatly changed. Under the Mogul rule, the country was farmed out to Zemindars, some of whom assumed the title of Rajah: they collected revenue for the Sovereign, retaining by law ten per cent on all that was realized; there was no intermediate class, the peasant paying directly to the Zemindar, and he into the royal treasury. Latterly the Zemindars have become farmers

**Clerodendron* leaves, bruised, are used to kill vermin, fly-blows, &c., in cattle; and the twigs form tooth-picks. The flowers are presented to Kahadeo, as a god of peace; milk, honey, flowers, fruit, amrit (ambrosia), &c., being offered to the pacific gods, as Vishnu, Krishna, &c.; while Mudar (*Asclepias*), Bhung (*Cannabis sativa*), *Datura*, flesh, blood, and spirituous liquors, are offered to Siva, Doorga, Kali, and other demoniacal deities.

APPENDIX X—contd.

under the Company's rule; and in the adjudication of their claims, Lord Cornwallis (then Governor-General) made great sacrifices in their favour, levying only a small tribute in proportion to their often great revenues, in the hope that they would be induced to devote their energies, and some of their means, to the improvement of the condition of the peasantry. This expectation was not realized; the younger Zemindars especially, subject to no restraint (except from aggressions on their neighbours), fell into slothful habits, and the collecting of the revenue became a trading speculation, entrusted to "middle men." The Zemindar selects a number, who again are at liberty to collect through the medium of several sub-renting classes. Hence the peasant suffers, and except a general futile appeal to the Rajah, he has no redress. The law secures him tenure as long as he can pay his rent, and to do this he has recourse to the usurer; borrowing in spring (at 50, and oftener 100 per cent) the seed, plough, and bullocks; he reaps in autumn, and what is then not required for his own use, is sold to pay off part of his original debt, the rest standing over till the next season; and thus it continues to accumulate, till, overwhelmed with difficulties, he is ejected, or flees to a neighbouring district. The Zemindar enjoys the same right of tenure as the peasant: the amount of impost laid on his property was fixed for perpetuity; whatever his revenue be, he must pay so much to the Company, or he forfeits his estates, and they are put up for auction.

One evening we visited the young Rajah at his residence, which has rather a good appearance at a distance, its white walls gleaming through a dark top of mango, betel, and cocoa-nut. A short rude avenue leads to the entrance gate, under the trees, of which a large bazaar was being held; stocked with cloths, simple utensils, ornaments, sweetmeats, five species of fish from the Teesta, and the betel-nut.

We entered through a guard-house, where were some of the Rajah's sepoy in the European costume, and a few of the Company's troops, lent to the Rajah as a security against some of the turbulent pretenders to his title. Within was a large court-yard, flanked by a range of buildings, some of good stone-work, some of wattle, in all stages of disrepair. A great crowd of people occupied one end of the court, and at the other we were received by the Dewan, and seated on chairs under a canopy supported by slender silvered columns. Some slovely Natch-girls were dancing before us, kicking up clouds of dust, and singing or rather bawling through their noses, the usual indelicate hymns in honour of the Hooli festival; there were also fiddlers, cutting uncouth capers in rhythm with the dancers. Anything more deplorable than the music, dancing, and accompaniments cannot well be imagined; yet the people seemed vastly pleased, and extolled the performers.

The arrival of the Rajah and his brothers was announced by a crash of tom-toms and trumpets, while over their heads were carried great gilt canopies. With them came a troop of relations, of all ages; and amongst them a poor little black girl, dressed in honour of us in an old-fashioned English chintz frock and muslin cap, in which she cut the drollest figure imaginable; she was carried about for our admiration, like a huge Dutch doll, crying lustily all the time.

The festivities of the evening commenced by handing round trays full of pith-balls, the size of a nutmeg, filled with a mixture of flour, sand, and red lac-powder; with these each pelted his neighbour, the thin covering bursting as it struck any object, and powdering it, copiously with red dust. A more childish and disagreeable sport cannot well be conceived; and when

the balls were expended, the dust itself was resorted to, not only fresh, but that which had already been used was gathered up, with whatever dirt it might have become mixed. One rude fellow, with his hand full, sought to entrap his victims into talking, when he would stuff the nasty mixture into their mouths.

At the end attar of roses was brought, into which little pieces of cotton, fixed on slips of bamboo, were dipped, and given to each person. The heat, dust, stench of the unwashed multitude, noise, and increasing familiarity of the lower orders, warned us to retire, and we effected our retreat with precipitancy.

The Rajah and his brother were very fine boys, lively, frank, unaffected, and well disposed: they have evidently a good guide in the old Dewan; but it is melancholy to think how surely, should they grow up in possession of their present rank, they will lapse into slothful habits, and take their place amongst the imbeciles who now represent the once powerful Rajahs of Bengal.

We rode back to our tents by a bright moonlight, very dusty and tired, and heartily glad to breathe the cool fresh air, after the stifling ordeal we had undergone.

On the following evening the elephants were again in waiting to conduct us to the Rajah. He and his relations were assembled outside the gates, mounted upon elephants, amid a vast concourse of people. The children and Dewan were seated in a sort of cradle, the rest were some in howdahs, and some astride on elephants' backs, six or eight together. All the idols were paraded before them, and powdered with red dust; the people howling, shouting, and sometimes quarrelling. Our elephants took their places amongst those of the Rajah, and when the mob had sufficiently pelted one another with balls and dirty red powder, a torchlight procession was formed, the idols leading the way, to a very large tank, bounded by a high rampart, within which was a broad esplanade round the water.

The effect of the whole was very striking, the glittering cars and barbaric gaud of the idols showing best by torchlight; while the white robes and turbans of the undulating sea of people, and the great black elephants picking their way with matchless care and consideration, contrasted strongly with the quiet moonbeams sleeping on the still broad waters of the tank.

Thence the procession moved to a field, where the idols were placed on the ground, and all dismounted; the Dewan then took the children by the hand, and each worshipped his tutelary deity in a short prayer dictated by the attendant Brahmin, and threw a handful of red dust in its face. After another ordeal of powder, singing, dancing, and suffocation, our share in the Hooli ended, and having been promised elephants for the following morning, we bade a cordial farewell to our engaging little hosts and their staid old governor.

On the 10th of March we were awakened at an early hour by a heavy thunder-storm from the south-west. The sunrise was very fine, through an arch 10° high of bright blue sky, above which the whole firmament was noddled with cirrus. It continued cloudy, with light winds, throughout the day, but clear on the horizon. From this time such storms became frequent, ushering in the equinox; and the less hazy sky and rising hygrometer predicted an accession of moisture in the atmosphere.

We left for Rangamally, a village eight miles distant in a northerly direction, our course lying along the west bank of the Teesta.

APPENDIX X—contd.

The river is here navigated by canoes, thirty to forty feet long, some being rudely cut of a solid log of Sal, while others are built, the planks, of which there are but few, being sewed together, or clamped with iron, and the seams caulked with the fibres of the root of Dhak (*Butea frondosa*), and afterwards smeared with the gluten of *Diospyros embryopteris*. The bed of the river is here three-quarters of a mile across, of which the stream does not occupy one-third; its banks are sand cliffs, fourteen feet in height. A few small fish and water-snakes swarm in the pools. The whole country improved in fertility as we advanced towards the mountains; the grass became greener, and more trees, shrubs, herbs, and birds appeared. In front, the dark boundary-line of the Sal forest loomed on the horizon, and to the east rose the low hills of Bhotap, both backed by the outer ranges of the Himalaya.

Flocks of cranes were abundant over-head, flying in wedges, or breaking up into "open order," preparing for their migration northwards, which takes place in April, their return occurring in October; a small quail was also common on the ground. Tamarisk ("Jhow") grew in the sandy bed of the river; its flexible young branches are used in various parts of India for wattling and basket-making.

In the evening we walked to the skirts of the Sal forest. The great trunks of the trees were often scored by tigers' claws, this animal indulging in the cat-like propensity of rising and stretching itself against such objects. Two species of *Dillenia* were common in the forest, with long grass, *Symplocos*, *Embluca*, and *Cassia Fistula*, now covered with long pods. Several parasitical air-plants grew on the dry trees, as *Oberonia*, *Vanda*, and *Aerides*.

At Rangamally, the height of the sandy banks of the Teesta varies from fifteen to twenty feet. The bed is a mile across, and all sand,* the current much divided, and opaque green, from the glacial origin of most of its head-streams. The west bank was covered with a small Sal forest, mixed with *Acacia Catechu*, and brushwood, growing in a poor vegetable loam over very dry sand.

The opposite (or Bhotan) bank is much lower, and always flooded during the rains, which is not the case on the western side, where the water rises to ten feet below the top of the bank, or from seven to ten feet above its height in the dry season, and it then fills its whole bed. This information we had from a police Jemadar, who has resided many years on this unhealthy spot, and annually suffers from fever. The Sal forest has been enroached upon from the south, for many miles, within the memory of man, by clearing in patches and indiscriminate felling.

About ten miles north of Rangamally, we came to an extensive flat, occupying a recess in the high west bank, the site of the old capital (Bai-kant-pore) of the Jeelpigoree Rajah. Hemmed in as it is on three sides by a dense forest, and on all by many miles of malarious Terai, it appears sufficiently secure from ordinary enemies during a great part of the year. The soil is sandy, overlying gravel, and covered with a thick stratum of fine mud or silt, which is only deposited on these low flats; on it grew many naturalized plants, as hemp, tobacco, jack, mango, plantain, and orange.

About eight miles on we left the river-bed, and struck westerly through a dense forest, to a swampy

*Now covered with *Anthistiria* grass, fifteen feet high, a little *Sissoo*, and *Bombar*.

clearance occupied by the village of Rummai, which appeared thoroughly malarious; and we pitched the tent on a narrow, low ridge, above the level of the plain.

It was now cool and pleasant, partly due, no doubt, to a difference in the vegetation, and the proximity of swampy and forest, and partly also to a change in the weather, which was cloudly and threatening; much rain, too, had fallen here on the preceding day.

Brahmins and priests of all kinds are few in this miserable country. Near the villages, and under the large trees, are, every here and there, a few miniature thatched cottages, four to six feet high, in which the tutelary deities of the place are kept; they are idols of the very rudest description, of Vishnu as an ascetic (Bai kant Nath), a wooden doll, gilt and painted, standing, with the hands raised as in exhortation, and one leg crossed over the other. Agam, Kartik, the god of war, is represented sitting astride on a peacock, with the right hand elevated and holding a small flat cup.

Some fine muscular Cooches were here brought for Mr. Hodgson's examination, but we found them unable or unwilling to converse in the Cooch tongue, which appears to be fast giving place to Bengalee.

We walked to a stream, which flows at the base of the retiring sand-cliffs, and nourishes a dense and richly-varied jungle, producing many plants, as beautiful *Acanthacea*, Indian horse-chestnut, loaded with white racemes of flowers, gay *Convolvuli*, laurels, terrestrial, and parasitic *Orchideae*, *Dillenia*, casting its enormous flowers big as two fists, pepper, figs, and, in strange association with these, a hawthorn, and the yellow-flowered Indian strawberry, which ascends 7,500 feet on the mountains, and *Hodgsonia*, a new *Cucurbitaceous* genus, clinging in profusion to the trees, and also found 5,000 feet high on the mountains.

In the evening we rode into the forest (which was dry and very unproductive), and thence along the river-banks, through *Acacia Catechu*, belted by *Sissoo*, which often fringes the stream, always occupying the lowest flats. The foliage at this season is brilliantly green; and as the evening advanced, a yellow convolvulus burst into flower like magic, adorning the bushes over which it climbed.

It rained on the following morning; after which we left for the exit of the Teesta, proceeding northwards, sometimes through a dense forest of Sal timber, sometimes dipping into marshy depressions, or riding through grassy savannahs, breast-high. The coolness of the atmosphere was delicious, and the beauty of the jungle seemed to increase the further we penetrated primeval forests.

Eight miles from Rummai we came on a small river from the mountains, with a Cooch village close by, inhabited during the dry season by timber-cutters from Jeelpigoree. It is situated upon a very rich black soil covered with *Saccharum* and various gigantic grasses, but no bamboo. These long grasses replace the Sal, of which we did not see one good tree.

We here mounted the elephants, and proceeded several miles through the prairie, till we again struck upon the high Sal forest-bank, continuous with that of Rummai and Rangamally, but much loftier; it formed one of many terraces which stretch along the foot of the hills, from Punkabaree to the Teesta, but of which none are said to occur for eight miles eastwards along the Bhotan Dooars. If true, this is probably due in part

APPENDIX X—contd.

to the alteration of the course of the Teesta, which is gradually working to the westward, and cutting away these lofty banks.

The elephant-drivers appeared to have taken us by mistake to the exit of the Chawa, a small stream which joins the Teesta further to the eastward. The descent to the bed of this rivulet, round the first spur of rock we met with, was fully eighty feet, through a very irregular depression, probably the old bed of the stream; it runs southwards from the hills, and was covered from top to bottom with slate-pebbles. We followed the river to its junction with the Teesta, along a flat, broad gully, bounded by densely-wooded, steep banks of clay-slay on the north, and the lofty bank on the south; between these the bed was strewn with great boulders of gneiss and other rocks, luxuriantly clothed with long grass, and trees of wild plantain, *Erythrina* and *Bauhinia*, the latter gorgeously in flower.

The Sal bank formed a very fine object; it was quite perpendicular, and beautifully stratified with various coloured sands and gravel, it tailed off abruptly at the junction of the rivers, and then trended away south-west, forming the west bank of the Teesta. The latter river is at its outlet a broad and rapid, but hardly impetuous stream, now fifty yards across, gushing from between two low, forest clad spurs: it appeared about five feet deep, and was beautifully fringed on both sides with green *Sissou*.

Some canoes were here waiting for us, formed of hollowed trunks of trees, thirty feet long; two were lashed together with bamboos, and the boatmen sat one at the head and one at the stern of each. We lay along the bottom of the vessels, and in a second we were darting down the river at the rate of at least ten or fifteen miles an hour, the bright waters leaping up on all sides, and bounding in *jets-d'eau* between prows and sterns of the coupled vessels. Sometimes we glided along without perceptible motion, and at other jolted down bubbling rapids the steersmen straining every nerve to keep their bark's head to the current, as she impatiently swerved from side to side in the eddies. To our jaded and parched frames, after the hot forenoon's ride on the elephants, the effect was delicious: the fresh breeze blew on our heated foreheads and down our open throats and chests, we dipped our hands into the clear, cool stream, and there was "music in the waters" to our ears. Fresh verdure on the banks, clear pebbles, soft sand, long English river-reaches, forest glades, and deep jungles, followed in rapid succession; and as often as we rounded a bend or shot a rapid, the scene changed from bright to brighter still; so continuing until dusk, when we were slowly paddling along the then torpid current opposite Rangamally.*

*The following temperature of the waters of the Teesta were taken at intervals, during our passage from its exit to Rangamally, a distance of fifteen linear miles, and thirty miles following the bends:—

		Water		Air	
Exit	2h. 30m. P.M.	62°	74°		
3		62°2	72°	opposite	Rummai
3	30	63°2	71°7	opposite	Baikant
4		64°			
4	30	65°			
5		65°4			
5	30	66°			
6		66°			

The absence of large stones or boulders of rock in the bed of the Teesta is very remarkable, considering the great volume and rapidity of the current, and that it shoots directly from the rocky hills to the gravelly plains. At the *embouchure* there are boulders as big as the head, and in the stream, four miles below the exit, the boatmen pointed out a stone as large as the body as quite a marvel.

They assured us that the average rise at the mouth of the river, in the rains, was not more than five feet; the mean breadth of the stream is from seventy to ninety yards. From the point where it leaves the mountains, to its junction with the Megna, is at this season thirteen days' voyage, the return occupying from the twenty to twenty five days, with the boats unladen. The name "Teesta" signifies "quiet," this river being so in comparison with other Himalayan torrents further west, the Cosi, Konki, &c., which are devastators of all that bounds their course.

We passed but two crossing places: at one the river is divided by an island, covered with the rude chaits and flags of the Boodhists. We also saw some Cooch fishermen who throw the net much as we do: a fine "Mahasei" (a very large carp) was the best fish they had. Of cultivation there was very little, and the only habitations were a few grass huts of the boatmen or buffalo herdsmen, a rare Cooch village of Catechu and Sal cutters, or the shelter of timber floaters who seem to pass the night in nests of long dry grass.

Our servants not having returned with the elephants from Rummai, we spent the following day at Rangamally shooting and botanizing. I collected about 100 species in a couple of hours, and observed perhaps twice that number, the more common I have repeatedly alluded to, and excepting some small terrestrial Orchids, I added nothing of particular interest to my collection.*

On the 14th of March we proceeded west to Sili-goree, along the skirts of the ragged Sal forest. Birds are certainly the most conspicuous branch of the natural history of this country, and we saw many species, interesting either from their habits, beauty, or swimming birds, several of which are migratory and English. The Shoveller, white-eyed and common and wild ducks; Merganser, Brahmince, and Indian goose (*Luscor Indica*); common and Gargany teal, two kinds of gull; one of Shearwater (*Rhyncops albacus*); three of tern, and one of cormorant. Besides these there were three egrets, the large crane, stork, green heron, and the demoiselle; the English sand-martin, kingfisher, peregrine-falcon, sparrow hawk, kestrel, and the European vulture, the wild peacock, and jungle-fowl. There were at least 100 peculiarly Indian birds in addition, of which the more remarkable were several kinds of minia, of starling, vulture, kingfisher, magpie, quail, and lapwing.

The country gradually became quite beautiful, much undulated and diversified by bright green meadows, sloping lawns, and deeply-wooded nullahs, which lead from the Sal forest and meander through this varied landscape. More beautiful sites for fine mansions could not well be, and it is difficult to suppose so lovely a country should be so malarious as it is before and after the rains, excessive heat probably diffusing widely

*The following is a list of the principal genera, most of which are English: *Polygonum*, *Quercus*, *Sonchus*, *Gnaphalium*, *Cratogeomys*, *Lobelia*, *Lactuca*, *Hydrocotyle*, *Saponaria*, *Campanula*, *Ridens*, *Rubus*, *Oxalis*, *Artemisia*, *Fragaria*, *Clematis*, *Dioscorea*, *Potamogeton*, *Chara*, *Veronica*, *Viola*, *Smilax*.

APPENDIX X—concl'd.

the miasma from small stagnant surfaces. We noticed a wild hog, absolutely the first wild beast of any size I saw on the plains, except the hispid hare (*Lepus hispidus*) and the barking deer (*Stylocerus ratna*). The hare we found to be the best game of this part of India, except the teal. The pheasants of Darjeeling are poor, the deer all but uneatable, and the florican, however dressed, I considered a far from excellent bird.

A good many plants grow along the streams, the sandy beds of which are everywhere covered with the marks of tigers' feet. The only safe way of botanizing is by pushing through the jungle on elephants; an uncomfortable method, from the quantity of ants and insects which drop from the foliage above, and from the risk of disturbing pendulous bees' and ants' nests.

CENSUS TRACTS, VILLAGE SAMPLE POPULATION AND DISPLACED PERSONS

Preparatory to the sorting and tabulation of census information, rural and urban areas of a district were grouped into Census Tracts on the basis of instructions issued by the Registrar General of India. These tracts had to have the approval of the Registrar General of India before sorting and tabulation began. A list of rural and urban tracts of Jalpaiguri grouping rural thanas and urban areas is given below. In the body of the statistics they are referred to by their code number.

RURAL

R—87 Jalpaiguri (Excluding town)
Rajganj

R—89 Nagrakata
Mal
Matiali

R—88 Mainaguri
Dhupguri

R—90 Alipur Duars (excluding town)
Kumargram

R—91 Madarihat
Falakata
Kalchini

URBAN

U—35 Jalpaiguri
Alipur Duar

A 'village' in the book is identical with a cadastrally surveyed 'mauza' bearing a jurisdiction list number.

In several tables the term 'Sample Population' has been used. This sample was drawn according to the following instruction of the Registrar General of India. Enumeration was done on pads of 100 slips each, a slip containing the record of an individual:—

"Break each pad and stack the slips of the pad; and 'cut' the stack as in a card game. Place the lower portion above the upper portion and then deal the slips into the pigeon holes. You should deal the slips into pigeon holes in the order of 1, 2, 3, 4, 5, 6, 7, 8 and 9 successively. All the time, you should watch the slips of 'Displaced Persons.' If you come across any slip of a Displaced Person deal it in the pigeon hole of 'Displaced Persons.'"

Hence it will be seen that the sample is not a sample of the total population but of the latter excluding the 'Displaced Population.'

The check factors for the sample population are:—

1,000 S/G Rural Total = $77,508,000/699,641=110.78$

1,000 S/G Urban Total = $3,888,000/34,929=111.31$

1,000 S/G District Total = $81,396,000/734,570=110.81$

A 'Displaced Person' was defined by the Registrar General of India as follows:—

"A 'Displaced Person' means any person who has entered India having left or being compelled to leave his or her home in Western Pakistan on or after the 1st March 1947 or his/her home in Eastern Pakistan on or after the 15th October 1946 on account of civil disturbances or the fear of such disturbances or on account of the setting up of the two dominions of India and Pakistan."

CENSUS TRACTS, VILLAGE SAMPLE POPULATION AND DISPLACED PERSONS—concl.

The population is divided into two broad livelihood categories, *viz.*, the Agricultural Classes and the Non-Agricultural Classes. Each category is divided into four classes as below:—

Agricultural Classes—

- I—Cultivators of land wholly or mainly owned and their dependants
- II—Cultivators of land wholly or mainly unowned and their dependants
- III—Cultivating labourers and their dependants
- IV—Non-cultivating owners of land; Agricultural rent receivers and their dependants

Non-Agricultural Classes—

Persons (including dependants) who derive their principal means of livelihood from—

- V—Production other than cultivation
- VI—Commerce
- VII—Transport
- VIII—Other services and miscellaneous sources

A—GENERAL POPULATION TABLES
TABLE 1.1—AI—AREA, HOUSES AND POPULATION

District, Sub-division, Police Station or Township	Area in sq. miles	Towns	Occupied Houses			Persons			Males			Females			
			Total		Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	
			1	2											3	4	5	6	7	8	9	10	11	12	13	14	15	16
JALPAIGURI DISTRICT	(a) 2,378.3 (b) 2,374.4	776	2	199,638	188,215	11,423	914,538	848,393	66,145	501,090	461,705	39,385	413,448	386,888	26,760
<i>Sadar Subdivision</i>	<i>1,293.9</i>	<i>431</i>	<i>1</i>	<i>117,006</i>	<i>110,321</i>	<i>6,655</i>	<i>540,142</i>	<i>504,853</i>	<i>41,259</i>	<i>300,342</i>	<i>275,801</i>	<i>24,551</i>	<i>245,790</i>	<i>229,082</i>	<i>16,708</i>
1 Jalpaiguri	185.6	24	1	21,989	15,304	6,685	115,489	74,200	41,259	64,441	39,890	24,551	51,018	34,310	16,708
<i>Jalpaiguri</i>	<i>3.0</i>	..	..	..	..	<i>6,655</i>	..	..	<i>41,359</i>	..	..	<i>24,551</i>	..	..	<i>16,708</i>
2 Rajganj	245.8	29	..	9,994	9,994	..	51,723	51,723	..	28,458	28,458	..	23,265	23,265	..
3 Managuri	251.5	86	..	17,397	17,397	..	88,315	88,315	..	48,200	48,200	..	40,115	40,115	..
4 Nagrakata	106.7	40	..	10,368	10,368	..	42,389	42,389	..	23,065	23,065	..	19,324	19,324	..
5 Dhanguri	216.8	105	..	26,161	26,161	..	110,910	110,910	..	61,159	61,159	..	49,751	49,751	..
6 Mal	197.4	105	..	19,189	19,189	..	88,158	88,158	..	48,658	48,658	..	39,500	39,500	..
7 Matiali	92.1	42	..	11,908	11,908	..	49,188	49,188	..	26,371	26,371	..	22,817	22,817	..
<i>Alipur Duars Subdivision</i>	<i>1,078.5</i>	<i>345</i>	<i>1</i>	<i>82,632</i>	<i>77,894</i>	<i>4,738</i>	<i>365,356</i>	<i>343,510</i>	<i>24,886</i>	<i>200,738</i>	<i>185,904</i>	<i>14,834</i>	<i>167,658</i>	<i>157,606</i>	<i>10,052</i>
8 Madarihat	146.9	50	..	14,327	14,327	..	59,486	59,486	..	32,033	32,033	..	27,453	27,453	..
9 Falakata	122.6	63	..	11,938	11,938	..	55,760	55,760	..	30,623	30,623	..	25,077	25,077	..
10 Kalchini	344.4	43	..	21,815	21,815	..	85,609	85,609	..	46,384	46,384	..	39,225	39,225	..
11 Alipur Duars	269.7	129	1	24,152	19,414	4,738	119,038	94,152	24,886	65,575	50,741	14,834	53,463	43,411	10,052
<i>Alipur Duars</i>	<i>5.73</i>	..	..	..	..	<i>4,738</i>	..	..	<i>24,886</i>	..	..	<i>14,834</i>	..	..	<i>10,052</i>
12 Kumargram	194.9	60	..	10,400	10,400	..	48,563	48,563	..	26,123	26,123	..	22,440	22,440	..

(a) Area provided by Surveyor General, India, through Registrar General, India. The total of areas of subdivisions will differ from this figure.
 (b) Area derived from Jurisdiction Lists and confirmed by the Director of Land Records and Surveys, West Bengal

TABLE 1.2—AII—VARIATION IN POPULATION DURING FIFTY YEARS—1901-1951

District	Persons	Variation	Net Variation 1901-1951	Males	Variation	Females	Variation
1	2	3	4	5	6	7	8
JALPAIGURI DISTRICT							
1901	544,906	..	..	295,661	..	249,245	..
1911	661,282	+ 116,376	..	361,637	+ 65,976	299,645	+ 50,400
1921	694,056	+ 32,774	..	374,028	+ 12,391	320,028	+ 20,383
1931	739,160	+ 45,104	..	403,908	+ 29,880	335,252	+ 15,224
1941	845,702	+ 106,542	..	460,540	+ 56,632	385,162	+ 49,910
1951	914,538	+ 68,836	+ 369,632	501,090	+ 40,550	413,448	+ 28,286

TABLE 1.3—AIV—TOWNS CLASSIFIED BY POPULATION WITH VARIATIONS SINCE 1901

(NOTE:—All towns are municipalities unless otherwise indicated. Towns in the Census of 1951 have been classified as follows: Class I—100,000 and over. Class II—50,000 to 100,000. Class III—20,000 to 50,000. Class IV—10,000 to 20,000. Class V—5,000 to 10,000. Class VI—under 5,000.)

District, Town and Class of Town	Persons	Variation	Net Variation 1901-1951	Males	Variation	Females	Variation
1	2	3	4	5	6	7	8
JALPAIGURI DISTRICT							
Jalpaiguri							
Class III							
1901	10,289	..	..	6,513	..	3,776	..
1911	11,765	+ 1,476	..	7,547	+ 1,034	4,218	+ 4,42
1921	14,813	+ 3,048	..	9,165	+ 1,618	5,648	+ 1,430
1931	18,962	+ 4,149	..	11,995	+ 2,830	6,967	+ 1,319
1941	27,766	+ 8,804	..	17,420	+ 5,425	10,346	+ 3,379
1951	41,259	+ 13,493	+ 30,970	24,551	+ 7,131	16,708	+ 6,362
*Allpur Duar							
Class III							
1901	..	..	..	..	..	..	..
1911	..	..	..	..	..	..	..
1921	..	..	..	..	..	..	..
1931	..	..	..	..	..	..	..
1941	..	..	..	..	..	..	..
1951	24,886	..	..	14,834	..	10,052	..

*Non-municipal town.

TABLE 1.4—AIII—TOWNS AND VILLAGES CLASSIFIED BY POPULATION

District, Subdivision and Police Station	Total number of inhabited towns and villages	Towns and villages with less than 2,000 population																	
		Total Population				Total			Less than 500			500—1,000							
		Persons		Males		Females		Number		Males		Females		Number		Males		Females	
		3	4	5	6	7	8	9	10	11	12	13	14						
1																			
JALPAIGURI DISTRICT																			
	778	914,538	501,090	413,448	680	270,149	224,662	202	32,436	26,844	336	132,826	111,356						
<i>Sadar Subdivision</i>																			
	432	546,142	300,352	245,790	374	156,065	129,689	106	17,038	14,193	171	67,705	56,765						
1	Jalpaiguri			51,018	13	3,490	2,910	8	642	536	3	1,212	957						
2	Rajganj			23,265	23	8,188	6,958	12	1,885	1,573	6	2,290	1,878						
3	Mainaguri			40,115	78	33,243	27,780	15	2,495	2,102	42	16,644	13,883						
4	Nagrakata			19,324	33	12,325	10,308	18	2,909	2,436	9	3,934	3,274						
5	Dhupguri			49,751	94	43,679	36,024	18	3,364	2,819	46	18,612	15,690						
6	Mal			39,500	98	38,363	31,648	30	5,107	4,277	49	18,920	15,676						
7	Matiali			22,817	35	16,777	14,061	5	636	450	16	6,093	5,407						
<i>Alipur Duars Subdivision</i>																			
	346	365,396	200,755	167,655	306	114,084	94,972	96	15,398	12,671	165	65,121	54,591						
8	Madarihat			27,453	38	12,271	9,913	20	2,765	2,204	11	3,985	3,322						
9	Falakata			25,077	59	24,718	20,305	19	1,971	1,604	40	16,159	13,220						
10	Kalchini			39,225	26	11,325	8,742	9	1,332	884	9	3,482	2,844						
11	Alipur Duars			53,463	127	47,020	40,085	38	6,295	5,355	72	28,561	24,086						
12	Kumargram			22,440	56	18,749	15,877	15	3,035	2,904	33	12,934	11,119						

TABLE 1.4—AIII—TOWNS AND VILLAGES CLASSIFIED BY POPULATION—contd.

District, Subdivision and Police Station	Towns and villages with less than 2,000 population						Towns and villages with a population of 2,000—10,000									
	1,000—2,000			Total			2,000—5,000			5,000—10,000						
	Number		Females	Number		Females	Number		Females	Number		Females	Number		Females	
	15	16	17	18	19	20	21	22	23	24	25	26				
JALPAIGURI DISTRICT	142	104,887	86,462	94	177,704	150,478	83	135,816	115,514	11	41,888	34,964				
<i>Sadar Subdivision</i>																
1 Jalpaiguri	97	71,322	58,731	56	112,574	93,346	45	70,686	58,382	11	41,888	34,964				
2 Rajganj	2	1,636	1,417	10	29,238	25,353	5	9,305	8,038	5	19,933	17,315				
3 Mainaguri	5	4,013	3,507	6	20,270	16,307	1	1,726	1,513	5	18,544	14,794				
4 Nagrakata	21	14,104	11,795	8	14,957	12,335	7	11,546	9,480	1	3,411	2,855				
5 Dhanguri	6	5,482	4,598	7	10,740	9,016	7	10,740	9,016	..	..	..	
6 Mal	30	21,703	17,515	11	17,480	13,727	11	17,480	13,727	..	..	..	
7 Matiali	19	14,336	11,695	7	10,295	7,852	7	10,295	7,852	..	..	..	
	14	10,048	8,204	7	9,594	8,756	7	9,594	8,756	..	..	..	
<i>Alipur Duars Subdivision</i>																
8 Madarihahat	45	33,565	27,731	38	65,130	57,132	38	65,130	57,132	..	..	..	
9 Falakata	7	5,521	4,387	12	19,762	17,540	12	19,762	17,540	..	..	..	
10 Kalchini	9	6,588	5,482	4	5,905	4,771	4	5,905	4,771	..	..	..	
11 Alipur Duars	8	6,512	5,064	16	28,368	24,932	16	28,368	24,932	..	..	..	
12 Kumargram	17	12,164	10,644	2	3,721	3,326	2	3,721	3,326	..	..	..	
	4	2,780	2,154	4	7,374	6,563	4	7,374	6,563	..	..	..	

TABLE 1.4—AIII—TOWNS AND VILLAGES CLASSIFIED BY POPULATION—concl'd.

District, Subdivision and Police Station	Towns and villages with a population of 10,000 and above															
	Total				10,000—20,000				20,000—50,000				50,000—100,000			
	Number Males		Females		Number Males		Females		Number Males		Females		Number Males		Females	
	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
JALPAIGURI DISTRICT																
<i>Sadar Subdivision</i>	2	31,713	22,755	1	7,162	6,047	1	24,551	16,708							
1 Jalpaiguri	2	31,713	22,755	1	7,162	6,047	1	24,551	16,708							
2 Rajganj																
3 Mainaguri																
4 Nagrakata																
5 Dhupguri																
6 Mal																
7 Matiali																
<i>Alipur Duars Subdivision</i>	2	21,524	15,553	1	6,690	5,501	1	14,534	10,952							
8 Madarihat																
9 Falakata																
10 Kalchini	1	6,690	5,501	1	6,690	5,501										
11 Alipur Duars	1	14,834	10,052				1	14,834	10,052							
12 Kumargram																

TABLE 1.5—PERSONS PER OCCUPIED HOUSE, SEX AND LIVELIHOOD CLASS RATIOS

JALPAIGURI DISTRICT

Serial No.	Particulars	Total	Rural	Urban
1	Number of persons per occupied house	4.6	4.5	5.8
2	Number of females per 1,000 males	825	838	679
3	Percentage of rural and urban to total population	100.0	92.8	7.2
4	Percentage of Agricultural Livelihoods to All Livelihoods	48.7	52.2	4.0
5	Percentage of Cultivators of Land owned to all Agricultural Classes	42.9	42.9	35.0
6	Percentage of Cultivators of Land unowned to all Agricultural Classes	53.6	53.7	37.6
7	Percentage of Cultivating Labourers to all Agricultural Classes	2.5	2.5	5.6
8	Percentage of Landlords and rent receivers to all Agricultural Classes	1.0	0.9	21.8
9	Percentage of Non-Agricultural Livelihoods to All Livelihoods	51.3	47.8	96.0
10	Percentage of Production other than cultivation to all Non-Agricultural Livelihoods	70.6	79.2	15.7
11	Percentage of Commerce to all Non-Agricultural Livelihoods	10.3	6.7	33.6
12	Percentage of Transport to all Non-Agricultural Livelihoods	3.8	2.8	9.9
13	Percentage of Other services and miscellaneous sources to all Non-Agricultural Livelihoods	15.3	11.3	40.8

TABLE 1.6—APPROXIMATE POPULATION OF UNIONS

(Populations given below are provisional, being those reported immediately upon the conclusion of Census enumeration in 1951. For comparison with finally prepared figures the final population of a thana is shown against its provisional population.)

Subdivision and Thana	Number of Union	Name of Union	Persons	Males	Females	Final population of Town in Thana	Provisional population of Thana	Final population of Thana
1	2	3	4	5	6	7	8	9
<i>Sadar Subdivision</i>								
Jalpaiguri	1	Barapatia Nutanbas	3,805	1,903	1,602	..	..	..
	2	Paharpur	5,279	2,780	2,499	..	..	..
	3	Patkata	5,903	3,161	2,752	..	..	..
	4	Belawba	5,672	3,058	2,614	..	..	..
	5	Kharia	8,659	4,776	3,883	..	..	..
	6	Bahadur & Satkhamar	6,128	3,289	2,839	..	..	..
	7	Garalbari	5,132	2,704	2,428	..	..	..
	8	Mandalghat	6,438	3,468	2,970	..	..	..
	9	Boalmari	4,934	2,725	2,209	..	..	..
		Nandanpur						
	10	Nagar Berubari	3,150	1,652	1,498	..	..	..
	11	Kharija Berubari	8,077	4,456	3,621	..	..	..
	12	South Berubari	5,932	3,153	2,779	..	..	..
		Joypur Tea Estate	1,003	525	478	..	..	..
		Raipur Tea Estate	1,093	568	525	..	..	..
		Karalla Valley Tea Estate	794	424	370	..	..	..
		Bhandiguri Tea Estate	990	493	497	..	..	..
		Bhandarpur Tea Estate	551	285	266	..	..	..
		Rungamalli Tea Estate	1,889	997	892	..	..	..
		<i>Jalpaiguri Municipality</i> . . . .	..	..	..	41,259	..	..
		Total	75,129	40,407	34,722	41,259	115,982	115,459
Rajganj	1	Dabgram	3,955	2,199	1,756	..	..	..
	2	Mantadari	2,046	1,078	968	..	..	..
	3	Fulbari	5,380	2,874	2,506	..	..	..
	4	Binnaguri	5,952	3,263	2,689	..	..	..
	5	Panikau	5,615	2,960	2,655	..	..	..
	6	Shikarpur	6,458	3,439	3,019	..	..	..
	7	Sanyasikata	2,733	1,492	1,241	..	..	..
	8	Majhali	3,106	1,688	1,418	..	..	..
	9	Sukhani	5,667	3,093	2,574	..	..	..
	10	Kukurjan	5,869	3,119	2,750	..	..	..
		Shikarpur Tea Estate	1,492	785	707	..	..	..
		Saraswatipur Tea Estate	858	475	383	..	..	..
		Dobgram	1,063	1,056	7	..	..	..
		Military Camp						
		Total	50,194	27,521	22,673	..	50,194	51,723
Mainaguri	1	Ramsai	5,689	3,071	2,618	..	..	..
	2	Amguri	7,616	4,204	3,412	..	..	..
	3	Domohani	9,187	5,137	4,050	..	..	..
	4	Barnish	7,819	4,296	3,523	..	..	..
	5	Madhabdanga	6,888	3,746	3,142	..	..	..
	6	Mainaguri	11,844	6,513	5,331	..	..	..
	7	Churabhandar	6,849	3,809	3,040	..	..	..
	8	Saptibari	8,666	4,706	3,960	..	..	..
	9	Padamati	9,829	5,223	4,606	..	..	..
	10	Dharmapur	8,473	4,525	3,948	..	..	..
		Mohanlal Ramchandrar Tea Estate	654	356	298	..	..	..
		Bholanath Tea Estate	408	219	189	..	..	..
		Domohani Ray Colony	2,336	1,321	1,015	..	..	..
		Upper Tondu Forest Range	577	318	259	..	..	..
		Lower Tondu Forest Range	326	178	148	..	..	..
		Total	87,161	47,622	39,539	..	87,161	88,315

TABLE 1.6—APPROXIMATE POPULATION OF UNIONS—contd.

Subdivision and Thana	Number of Union	Name of Union	Persons	Males	Females	Final population of Town in Thana	Provisional population of Thana	Final population of Thana
1	2	3	4	5	6	7	8	9
<i>Salar Subdivision—contd.</i>								
Nagrakata	1	Tondoo Nagrakata (Sulkapara)	3,890	2,145	1,745	..	..	..
	2	Kalabari Angrabhassa	5,156	2,789	2,367	..	..	..
		Bamandanga Tea Estate	1,932	1,030	902	..	..	..
		Bhagatpur Tea Estate	3,883	2,139	1,744	..	..	..
		Caron Tea Estate	1,066	587	479	..	..	..
		Chengmari Tea Estate	4,920	2,636	2,284	..	..	..
		Gatia Tea Estate	2,081	1,172	909	..	..	..
		Gossmore Tea Estate	2,042	1,075	967	..	..	..
		Hilla Tea Estate	1,554	851	703	..	..	..
		Hope Tea Estate	1,857	1,047	810	..	..	..
		Jiti Tea Estate	2,200	1,172	1,028	..	..	..
		Kurthi Tea Estate	1,744	934	810	..	..	..
		Looksan Tea Estate	2,080	1,185	895	..	..	..
		Nagrakata Tea Estate	1,931	1,051	880	..	..	..
		Nayasyle Tea Estate	2,563	1,368	1,195	..	..	..
		Tondoo Tea Estate	1,489	766	723	..	..	..
		Kalabari Altadanga Tea Estate	1,311	674	637	..	..	..
		Jaldhaka Tea Estate	744	422	322	..	..	..
		Daina Forest Range	42	24	18	..	..	..
		Total	42,485	23,067	19,418	..	42,485	42,389
Dhupguri	1	Salbari	6,984	3,809	3,175	..	..	..
	2	Jhar Atagram	9,588	5,126	4,462	..	..	..
	3	Godairkuthi	6,116	3,193	2,923	..	..	..
	4	Magurmari	9,312	5,048	4,264	..	..	..
	5	Dhupguri	10,847	6,211	4,636	..	..	..
	6	Sakopphora	9,895	5,479	4,416	..	..	..
	7	Gadong	7,840	4,193	3,647	..	..	..
		Ambari Tea Estate	2,522	1,416	1,106	..	..	..
		Binaguri Tea Estate	2,726	1,444	1,282	..	..	..
		Bunarhat Tea Estate	3,668	2,208	1,460	..	..	..
		Chamurchi Tea Estate	2,855	1,623	1,232	..	..	..
		Choonabhati Tea Estate	1,954	1,056	898	..	..	..
		Diana Tea Estate	1,519	878	641	..	..	..
		Gairkhata Tea Estate	1,821	1,004	817	..	..	..
		Gandrapara Tea Estate	3,200	1,814	1,386	..	..	..
		Haldibari Tea Estate	3,473	1,914	1,559	..	..	..
		Karbala Tea Estate	2,836	1,519	1,317	..	..	..
		Lakshipara Tea Estate	2,239	1,149	1,090	..	..	..
		Moraghat Tea Estate	1,749	986	763	..	..	..
		New Duars Tea Estate	2,576	1,353	1,223	..	..	..
		Red Bank Tea Estate	1,370	761	609	..	..	..
		Riabari Tea Estate	1,481	816	665	..	..	..
		Totapara Tea Estate	1,296	700	596	..	..	..
		Mogulkata Tea Estate	2,069	1,096	973	..	..	..
		Kathalguri Tea Estate	2,737	1,437	1,300	..	..	..
		Dehpara Tea Estate	2,653	1,441	1,212	..	..	..
		Gurgaman Tea Estate	1,423	782	641	..	..	..
		Lakshmi Kanta Tea Estate	720	399	321	..	..	..
		Telepara Tea Estate	2,652	1,400	1,252	..	..	..
		Moraghat Forest Range	986	587	399	..	..	..
		Daina Forest Range	14	7	7	..	..	..
		Total	111,121	60,849	50,272	..	111,121	110,910
Mal	1	Saogaon	1,803	943	860	..	..	..
	2	Oodlabari	4,533	2,586	1,947	..	..	..
	3	Haiharpathar	7,603	4,489	3,114	..	..	..
	4	Kumarpara	4,714	2,639	2,075	..	..	..
	5	Rajadanga	5,772	3,170	2,602	..	..	..
	6	Chengmari	3,914	2,149	1,765	..	..	..
	7	Khalpara Majhgram	7,689	4,222	3,467	..	..	..
	8	Matiali	5,955	3,200	2,755	..	..	..
	9	Champadanga	1,727	963	764	..	..	..
		Anandapur Tea Estate	1,668	914	754	..	..	..
		Bagrakote Tea Estate	4,103	2,232	1,871	..	..	..
		Haintgoorie Tea Estate	2,780	1,491	1,289	..	..	..
		Dalimkote Tea Estate	1,414	781	633	..	..	..

TABLE 1.6—APPROXIMATE POPULATION OF UNIONS—contd.

Subdivision and Thana	Number of Union	Name of Union	Persons	Males	Females	Final population of Town in Thana	Provisional population of Thana	Final population of Thana
1	2	3	4	5	6	7	8	9
<i>Sadar Subdivision—conold.</i>								
Mal—conold.		Ellenbari Tea Estate	1,322	721	601	..	..	..
		Good Hope Tea Estate	1,217	697	520	..	..	..
		Hai Haipatha Tea Estate	1,661	870	791	..	..	..
		Kunlai Tea Estate	1,645	895	750	..	..	..
		Gurjangihora Tea Estate	954	558	396	..	..	..
		Malnady Tea Estate	457	261	196	..	..	..
		Menglass Tea Estate	1,617	889	728	..	..	..
		New Gleuco Tea Estate	1,587	880	707	..	..	..
		Nepuchapur Tea Estate	1,068	575	493	..	..	..
		Nowera Naddy Tea Estate	1,916	1,032	884	..	..	..
		Rancherra Tea Estate	2,757	1,450	1,307	..	..	..
		Rangamati Tea Estate	2,662	1,495	1,167	..	..	..
		Syle Tea Estate	1,938	1,028	910	..	..	..
		Manabari Tea Estate	1,511	811	700	..	..	..
		Oodlabari Tea Estate	1,578	832	746	..	..	..
		Putherihora Tea Estate	2,208	1,135	1,073	..	..	..
		Washabari Tea Estate	2,027	1,124	903	..	..	..
		Nidamjhora Tea Estate	1,065	572	493	..	..	..
		Gazaldoba Tea Estate	669	378	291	..	..	..
		Jogeshchandra (Malhati) Tea Estate	2,321	1,262	1,059	..	..	..
		Toonbari Tea Estate	628	332	296	..	..	..
		Betbari Tea Estate	590	308	282	..	..	..
		Leesh River Tea Estate	2,883	1,577	1,306	..	..	..
		Damdin Tea Estate	3,314	1,815	1,529	..	..	..
		Mal Ray Colony	593	394	199	..	..	..
		Nidim Tea Estate	451	239	212	..	..	..
		Total	94,344	51,909	42,435	..	94,344	88,158
Matiali	1	Matiali	1,335	847	488	..	..	..
	2	Hai Haipather	3,252	1,804	1,448	..	..	..
	3	Khariar Bandar	4,388	2,368	2,020	..	..	..
		Aibheel Tea Estate	1,761	933	828	..	..	..
		Baradighi Tea Estate	3,287	1,735	1,552	..	..	..
		Batabari Tea Estate	1,101	590	511	..	..	..
		Chaloun Tea Estate	2,384	1,246	1,138	..	..	..
		Chulsa Tea Estate	1,998	1,035	963	..	..	..
		Engo Tea Estate	479	267	212	..	..	..
		Indong Tea Estate	2,048	1,092	956	..	..	..
		Killeott Tea Estate	1,544	841	703	..	..	..
		Matiali Tea Estate	1,438	783	655	..	..	..
		Moortee Tea Estate	1,236	660	576	..	..	..
		Nakhati Tea Estate	1,298	704	594	..	..	..
		Nagaisureo Tea Estate	2,331	1,256	1,075	..	..	..
		Sam Sing Tea Estate	3,775	1,953	1,822	..	..	..
		Sath Khayah Tea Estate	2,602	1,325	1,277	..	..	..
		Yongtong Tea Estate	1,703	901	802	..	..	..
		Zarrantee Tea Estate	2,169	1,152	1,017	..	..	..
		Soongachi Tea Estate	1,916	1,020	896	..	..	..
		Lower Tondu Forest Range	365	196	169	..	..	..
		Total	42,410	22,708	19,702	..	42,410	49,188
<i>Alipur Duars Subdivision</i>								
Madarihat	1	Nepania	2,217	1,214	1,003	..	..	..
	2	Totapara	574	311	263	..	..	..
	3	Ballalguri	779	454	325	..	..	..
	4	Khayerbari (North)	3,093	1,656	1,437	..	..	..
	5	Khayerbari (South)	4,320	2,441	1,879	..	..	..
	6	Rangalibazna	3,847	2,116	1,731	..	..	..
		Lankapara Tea Estate	3,629	1,959	1,670	..	..	..
		Tulshipara Tea Estate	1,407	709	698	..	..	..
		Garganda Tea Estate	2,299	1,219	1,080	..	..	..

TABLE 1.6—APPROXIMATE POPULATION OF UNIONS—contd.

Subdivision and Thana	Number of Union	Name of Union	Persons	Males	Females	Final popula- tion of Town in Thana	Provi- sional popula- tion of Thana	Final popula- tion of Thana
1	2	3	4	5	6	7	8	9
<i>Alipur Duars Subdivision—contd.</i>								
<i>Madarihat—concd.</i>		Dumchipara Tea Estate .	3,185	1,656	1,529	..	..	..
		Dalmore Tea Estate .	3,934	2,043	1,891	..	..	..
		Hantapara Tea Estate .	3,403	1,846	1,557	..	..	..
		Birpara Tea Estate .	4,684	2,674	2,010	..	..	..
		Nangdala Tea Estate .	2,218	1,126	1,092	..	..	..
		Dum Dima Tea Estate .	2,703	1,440	1,263	..	..	..
		Hosainabad Tea Estate .	1,103	624	479	..	..	..
		Mujnai Tea Estate .	2,216	1,215	1,001	..	..	..
		Mukrapara Tea Estate .	1,830	1,014	816	..	..	..
		Ramphora Tea Estate .	1,981	1,089	892	..	..	..
		Gopalpur Tea Estate .	2,871	1,492	1,379	..	..	..
		Rahimpur Tea Estate .	435	225	210	..	..	..
		Dheklapara Tea Estate .	1,220	658	562	..	..	..
		Joybipara Tea Estate .	1,457	799	658	..	..	..
		Bundapani Tea Estate .	2,437	1,266	1,171	..	..	..
		Moraghat Forest Range .	84	60	24	..	..	..
		Madarihat Forest Range .	245	129	116	..	..	..
		Total .	58,171	31,435	26,736	..	58,171	59,486
<i>Falakata</i>		1 Dalgaon Sarugaon (North) .	2,361	1,271	1,090	..	..	..
		2 Dalgaon Sarugaon (South) .	5,261	2,825	2,436	..	..	..
		3 Dalgaon .	6,406	3,469	2,937	..	..	..
		4 Deogaon .	5,064	2,728	2,336	..	..	..
		5 Choto Salkumar .	4,520	2,455	2,065	..	..	..
		6 Parangerpar .	6,120	3,376	2,744	..	..	..
		7 Raichenga .	5,540	3,236	2,304	..	..	..
		8 Bhutirghat .	4,429	2,443	1,986	..	..	..
		9 Gualkurnagar .	4,583	2,507	2,076	..	..	..
		Kadambini Tea Estate .	2,094	1,138	956	..	..	..
		Dalgaon Tea Estate .	3,178	1,648	1,530	..	..	..
		Tasati Tea Estate .	2,408	1,227	1,181	..	..	..
		Ethelbari Tea Estate .	1,263	669	594	..	..	..
		Sarugaon Tea Estate .	1,596	865	731	..	..	..
		Moraghat Forest Range .	110	59	51	..	..	..
		Madarihat Forest Range .	296	171	125	..	..	..
		Total .	55,229	30,087	25,142	..	55,229	55,700
<i>Kalchini</i>		1 Jaigaon .	988	545	443	..	..	..
		2 Satali (North) .	3,837	2,027	1,810	..	..	..
		3 Satali (South) .	4,046	2,193	1,853	..	..	..
		4 Nimti Domoham .	2,593	1,457	1,136	..	..	..
		Satali Tea Estate .	2,535	1,363	1,172	..	..	..
		Radharani Tea Estate .	734	394	340	..	..	..
		Dima Tea Estate .	3,309	1,727	1,582	..	..	..
		Gangutia Tea Estate .	2,893	1,560	1,333	..	..	..
		Dalsingpara Tea Estate .	4,736	2,630	2,106	..	..	..
		Toorsa Tea Estate .	2,273	1,243	1,030	..	..	..
		Mechpara Tea Estate .	3,752	1,955	1,797	..	..	..
		Bhatpara Tea Estate .	4,168	2,241	1,927	..	..	..
		Chuapara Tea Estate .	3,850	2,081	1,769	..	..	..
		Kalchini Tea Estate .	6,999	3,980	3,019	..	..	..
		Rajahbhat Tea Estate .	2,301	1,233	1,068	..	..	..
		Chinchula Tea Estate .	2,039	1,093	946	..	..	..
		Raimatang Tea Estate .	3,258	1,780	1,478	..	..	..
		Beech Tea Estate .	3,412	1,782	1,630	..	..	..
		Malangi Tea Estate .	4,295	2,457	1,838	..	..	..
		Central Duars Tea Estate .	4,546	2,447	2,099	..	..	..
		Bharnobari Tea Estate .	3,033	1,621	1,412	..	..	..
		Bhatkawa Tea Estate .	2,959	1,618	1,341	..	..	..
		Madhu Tea Estate .	2,214	1,181	1,033	..	..	..
		Atiabari Tea Estate .	2,701	1,497	1,204	..	..	..
		Nimtjhora Tea Estate .	1,945	1,095	850	..	..	..

TABLE 1.6—APPROXIMATE POPULATION OF UNIONS—concl'd.

Subdivision and Thana	Number of Union	Name of Union	Persons	Males	Females	Final popula- tion of Town in Thana	Provi- sional popula- tion of Thana	Final popula- tion of Thana
1	2	3	4	5	6	7	8	9
<i>Alipur Duars Subdivision—concl'd.</i>								
Kalchini		Subhasini Tea Estate . . .	1,488	811	677	..	..	..
		Gopinohon Tea Estate . . .	58	30	28	..	..	..
		Buxa Jails . . .	290	248	42	..	..	..
		Nilpara Forest Range . . .	903	562	341	..	..	..
		Buxa Forest Range . . .	1,510	866	644	..	..	..
		Chilapata Forest Range . . .	985	538	447	..	..	..
		Damanpur Forest Range . . .	1,987	1,068	919	..	..	..
		Rajabhatkawa Forest Range . . .	3 066	1,857	1,209	..	..	..
		Total . . .	89,703	49,180	40,523	..	89,703	85,609
Alipur Duars	1	Salkumar . . .	6,959	3,775	3,184	..	..	..
	2	Patlakhowa . . .	8,155	4,384	3,771	..	..	..
	3	Chakakheti . . .	4,351	2,339	2,012	..	..	..
	4	Tapsikhata . . .	6,932	3,832	3,100	..	..	..
	5	Banchukumari . . .	7,411	4,053	3,358	..	..	..
	6	Damanpur . . .	2,058	1,071	987	..	..	..
	7	Chapararpar . . .	6,747	3,483	3,264	..	..	..
	8	Majir Dabri . . .	6,146	3,276	2,870	..	..	..
	9	Majid Khaan . . .	5,958	3,156	2,802	..	..	..
	10	Bhatibari . . .	4,227	2,248	1,979	..	..	..
	11	Chikliguri . . .	4,927	2,670	2,257	..	..	..
	12	Chepam . . .	6,040	3,343	2,697	..	..	..
	13	Santal Colony . . .	4,955	2,793	2,162	..	..	..
	14	Turturi . . .	4,868	2,602	2,266	..	..	..
		Mathura Tea Estate . . .	4,756	2,568	2,188	..	..	..
		Sreenathpur Tea Estate . . .	626	354	272	..	..	..
		Patkapara Tea Estate . . .	1,388	709	679	..	..	..
		Kohinoor Tea Estate . . .	1,929	1,025	904	..	..	..
		Dhoulajhora Tea Estate . . .	1,567	832	735	..	..	..
		Majherdabri Tea Estate . . .	1,441	704	737	..	..	..
		Nilpara Forest Range . . .	14	9	5	..	..	..
		Chitapata Forest Range . . .	556	301	255	..	..	..
		<i>Alipur Duar Town</i> . . .	..	..	..	24,886	..	..
		Total . . .	92,011	49,527	42,484	24,886	110,656	119,038
Kumargram	1	Haldibari . . .	2,372	1,286	1,086	..	..	..
	2	Kumargram . . .	3,135	1,664	1,471	..	..	..
	3	Chengmari . . .	3,370	1,773	1,597	..	..	..
	4	Bara Daldali . . .	2,755	1,487	1,268	..	..	..
	5	Nararthali . . .	3,389	1,847	1,542	..	..	..
	6	Kamakhyaguri . . .	5,225	2,918	2,307	..	..	..
	7	Barabisha . . .	3,448	1,890	1,558	..	..	..
	8	Bhalka . . .	2,346	1,262	1,084	..	..	..
		Rydak Tea Estate . . .	3,145	1,632	1,513	..	..	..
		Sankos Tea Estate . . .	3,192	1,680	1,512	..	..	..
		Newlands Tea Estate . . .	2,934	1,576	1,358	..	..	..
		Kumargram Tea Estate . . .	2,958	1,598	1,360	..	..	..
		Kaskhawa Tea Estate . . .	719	364	355	..	..	..
		Kartick Tea Estate . . .	1,726	915	811	..	..	..
		Chuniajhora Tea Estate . . .	1,121	612	509	..	..	..
		Rahimabad Tea Estate . . .	1,529	834	695	..	..	..
		Jainti Tea Estate . . .	2,344	1,288	1,056	..	..	..
		Turturi Tea Estate . . .	799	420	379	..	..	..
		Rajabhatkawa Forest Range . . .	127	61	66	..	..	..
		Valka Forest Range . . .	867	490	377	..	..	..
		Rydak Forest Range . . .	313	176	137	..	..	..
		Total . . .	47,814	25,773	22,041	..	47,814	48,563

TABLE 1.7—AV—TOWNS ARRANGED TERRITORIALY WITH POPULATION BY LIVELIHOOD CLASSES

(All Towns are Municipalities unless otherwise indicated)

District and Name of Town	Livelihood Classes															
	Non-Agricultural Classes										Agricultural Classes					
	Persons (including dependants) who derive their principal means of livelihood from										Persons (including dependants) who derive their principal means of livelihood from					
	Population		V—Production other than cultivation		VI—Commerce		VII—Transport		VIII—Other services and miscellaneous sources		IV—Non-cultivating owners of land. Agricultural rent receivers and their dependants		I—III—Cultivators, (cultivating labourers and their dependants)			
	Persons	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
JALPAIGURI DISTRICT (Urban population)	66,145	39,385	26,760	5,903	4,069	12,298	9,030	4,105	2,161	15,652	10,264	325	251	1,102	965	
Jalpaiguri	41,259	24,551	16,708	3,111	2,186	7,050	5,243	1,789	655	11,610	7,794	227	166	764	664	
*Alipur Duar	24,886	14,834	10,052	2,792	1,883	5,248	3,787	2,316	1,506	4,042	2,490	98	85	338	301	

*Non-municipal town.

TABLE 1.8—E—SUMMARY OF LIVELIHOOD CLASSES AND VARIATIONS IN POPULATION

District, Subdivision, Police Station or Township	Area in square miles	Livelihood Classes												
		Population					Percentage Variation		Density		Agricultural Classes			
		1951		1941		Persons	1941 to 1951		1951	1941	I—Cultivators of land wholly or mainly owned and their dependants		II—Cultivators of land wholly or mainly un- owned and their dependants	
		Persons	Males	Females	7		8	Males			Females	Males	Females	
		1	2	3	4	5	6			9	10	11	12	13	14
JALPAIGURI DISTRICT	(a) 2,378 (b) 2,374.4 2,365.7 8.7	914,538 848,393 66,145	501,090 461,705 39,385	413,448 386,688 26,760	845,702 817,936 27,766		+ 8.1 + 3.7 + 138.2	- 14.4 + 13.6 + 46.4	385 359 7,603	356 345 9,255	100,334 99,813 521	90,618 90,215 403	128,823 128,301 522	110,112 109,640 472
Sadar Subdivision	1,295.9 1,292.4 3.0	546,142 504,883 41,259	300,352 275,801 24,551	245,790 229,082 16,708	524,884 497,118 27,766		+ 4.1 + 1.6 + 48.6	- 12.6 - 11.2 - 46.4	421 391 13,753	405 384 9,255	65,002 64,620 382	58,730 58,430 300	78,941 78,592 349	67,402 67,099 303
1 Jalpaiguri	185.6 182.6 3.0	115,459 74,200 41,259	64,441 39,890 24,551	51,018 34,310 16,708	100,369 72,603 27,766		+ 15.0 + 2.2 + 48.6	+ 17.4 + 9.1 - 46.4	622 406 13,753	540 397 9,255	14,795 14,413 382	13,292 12,992 300	16,205 15,856 349	14,076 13,773 303
Jalpaiguri	3.0	41,259	24,551	16,708	27,766		+ 48.6	- 46.4	13,753	9,255	382	300	349	303
2 Raiganj	245.8	51,723	28,458	23,265	51,127		+ 1.2	+ 3.5	210	208	14,484	13,462	7,113	5,979
3 Mainaguri	251.5	88,315	48,200	40,115	94,061		- 6.1	+ 20.2	351	374	16,800	15,080	20,191	17,436
4 Nagrakata	106.7	42,389	23,065	19,324	39,974		- 6.0	- 1.3	397	375	1,607	1,256	2,748	2,370
5 Dhupguri	216.8	110,910	61,159	49,751	101,588		- 9.2	+ 15.2	512	469	12,404	11,207	16,145	13,427
6 Mal	197.4	88,158	48,658	39,500	95,128		- 7.3	+ 13.3	447	482	3,469	3,056	11,617	9,941
7 Matiali	92.1	49,188	26,371	22,817	42,637		+ 15.4	+ 3.2	534	463	1,443	1,377	4,922	4,173

TABLE 1.8—E—SUMMARY OF LIVELIHOOD CLASSES AND VARIATIONS IN POPULATION—contd.

District, Subdivision, Police Station or Township	Area in square miles	Livelihood Classes											
		Agricultural Classes						Non-Agricultural Classes					
		Persons (including dependants) who derive their principal means of liveli- hood from						Persons (including dependants) who derive their principal means of liveli- hood from					
		III—Cultivating labourers and their dependants		IV—Non-cultivating owners of land; Agri- cultural rent receivers and their dependants		V—Production other than cultivation		VI—Commerce		VII—Transport		VIII—Other services and miscellaneous sources	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
JALPAIGURI DISTRICT		15	16	17	18	19	20	21	22	23	24	25	26
Sadar Subdivision	(a) 2,378	6,544	4,458	2,362	2,243	175,091	156,183	29,036	19,212	11,602	6,103	47,298	24,519
	(b) 2,374.4	6,485	4,368	2,037	1,992	169,188	152,114	16,738	10,182	7,497	3,942	31,646	14,235
	2,365.7	59	90	325	231	5,903	4,069	12,298	9,030	4,105	2,161	15,652	10,284
1 Jalpaiguri	1,295.9	4,800	3,222	1,741	1,643	95,935	83,802	16,964	11,589	6,375	3,141	30,594	16,261
	1,292.9	4,767	3,161	1,514	1,477	92,824	81,616	9,914	6,346	4,586	2,486	18,364	8,467
	3.0	33	61	227	166	3,111	2,186	7,050	5,243	1,789	655	11,610	7,794
Jalpaiguri	185.6	1,568	1,040	403	372	7,133	6,087	7,973	5,985	2,011	741	14,353	9,425
	182.6	1,535	979	176	206	4,022	3,901	923	742	222	86	2,743	1,631
	3.0	33	61	227	166	3,111	2,186	7,050	5,243	1,789	655	11,610	7,794
2 Rajgani	3.0	33	61	227	166	3,111	2,186	7,050	5,243	1,789	655	11,610	7,794
	245.8	1,300	805	128	96	1,898	1,570	788	615	233	86	2,714	652
	251.5	1,015	954	343	335	2,633	2,155	2,021	1,461	1,793	1,154	3,404	1,540
3 Mainaguri	106.7	56	34	120	116	16,325	14,450	675	338	410	187	1,124	573
	216.8	382	160	260	259	25,562	21,758	2,372	1,359	348	149	3,686	1,432
	197.4	270	146	460	449	25,877	22,444	2,022	1,123	1,072	527	3,871	1,814
6 Mal	92.1	209	83	27	16	16,707	15,338	1,113	708	508	297	1,442	825
7 Matiali													

TABLE 1.8—E—SUMMARY OF LIVELIHOOD CLASSES AND VARIATIONS IN POPULATION—contd.

District, Subdivision. Police Station or Township	Area in square miles	Population						Percentage Variation		Density		Livelihood Classes						
		1951			1941			1941 to 1951	1931 to 1941	1951	1941	Agricultural Classes						
		Persons			Persons							I—Cultivators of land wholly or mainly owned and their dependants			II—Cultivators of land wholly or mainly un- owned and their dependants			
		3	4	5	6	7	8					9	10	Males	Females	Males	Females	
1	2	3	4	5	6	7	8	9	10	11	12	13	14					
Alipur Duars Subdivision $\begin{cases} T \\ R \\ U \end{cases}$																		
															</			

TABLE 1.8—E—SUMMARY OF LIVELIHOOD CLASSES AND VARIATIONS IN POPULATION —concl'd.

District, Subdivision, Police Station or Township	Area in square miles	Livelihood Classes											
		Agricultural Classes						Non-Agricultural Classes					
		Persons (including dependants) who derive their principal means of livelihood from						Persons (including dependants) who derive their principal means of livelihood from					
		III—Cultivating labourers and their dependants		IV—Non-cultivating owners of land : Agri- cultural rent receivers and their dependants		V—Production other than cultivation		VI—Commerce		VII—Transport		VIII—Other services and miscellaneous sources	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
		15	16	17	18	19	20	21	22	23	24	25	26
Alipur Duars Subdivision	T : 1,078.5 R : 1,072.8 U : 5.73	1,744	1,236	621	600	79,156	72,381	12,072	7,623	5,227	2,962	16,704	8,258
8 Madarihat	.	1,718	1,207	523	515	76,364	70,498	6,824	3,836	2,911	1,456	12,662	5,768
9 Falakata	.	26	29	95	85	2,792	1,883	5,248	3,787	2,316	1,506	4,042	2,490
10 Kalchini	.	277	176	98	105	31,875	29,736	2,093	969	1,398	731	4,436	2,128
11 Alipur Duars	T : 269.7 R : 264.0 U : 5.73	628	533	175	137	9,148	7,963	6,582	4,680	2,557	1,621	6,900	3,974
Alipur Duar †	5.73	26	29	95	85	2,792	1,883	5,248	3,787	2,316	1,506	4,042	2,490
12 Kumargram	.	328	241	114	139	10,613	9,693	823	536	356	143	1,452	616

T stands for Total, R for Rural and U for Urban. Those Police Stations which are not classified by T, R and U have an entirely rural population.
(a) Area provided by the Surveyor General, India, through Registrar General, India. The total of areas of subdivisions will differ from this figure.
(b) Area derived from Jurisdiction Lists and confirmed by the Director of Land Records and Surveys, West Bengal. (Calculations of density are based on this figure.)

† Not declared as town in 1931 and 1941.

TABLE 1.9—ECONOMIC TABLE I—LIVELIHOOD CLASSES AND SUBCLASSES

(NOTE : This table classifies the population first into Agricultural and Non-Agricultural classes and next into eight Census livelihood classes by principal means of livelihood and shows under each class how many are self-supporting, non-earning or fully dependants, and earning or partly dependants.)

District and Tract	Total Population				Persons	Males	Females	Selfsupporting persons		Non-earning dependants		Earning dependants	
	Persons	Males	Females	Males				Females	Males	Females	Males	Females	
1	2	3	4	5	6	7	8	9	10	11	12	13	
ALL AGRICULTURAL CLASSES													
TOTAL POPULATION													
RURAL POPULATION													
Rural—87	125,923	68,348	57,575	103,297	55,005	48,292	24,074	3,827	29,665	44,113	1,266	352	
Rural—88	199,225	109,359	89,866	126,398	67,540	58,858	30,392	4,338	35,928	54,269	1,220	251	
Rural—89	179,735	98,094	81,641	49,965	26,948	23,017	13,037	2,036	12,905	20,130	1,006	851	
Rural—90	142,715	76,864	65,851	99,122	52,831	46,291	22,151	1,648	27,552	44,154	3,128	489	
Rural—91	200,795	109,040	91,755	64,069	34,312	29,757	15,697	1,474	15,672	26,627	2,943	1,656	
URBAN POPULATION													
Urban—35	66,145	39,385	26,760	2,643	1,427	1,216	606	75	810	1,136	11	5	
ALL NON-AGRICULTURAL CLASSES													
TOTAL POPULATION													
Total	914,538	501,090	413,448	469,044	263,027	206,017	169,912	83,238	88,202	119,318	4,913	3,461	
Rural	848,393	461,705	386,688	405,542	225,069	180,473	148,936	81,825	71,529	95,299	4,604	3,249	
Urban	66,145	39,385	26,760	63,502	37,958	25,544	20,976	1,413	16,673	24,019	309	112	
RURAL POPULATION													
Rural—87	125,923	68,348	57,575	22,626	13,343	9,283	8,372	2,798	4,547	6,293	424	192	
Rural—88	199,225	109,359	89,866	72,827	41,819	31,008	28,548	13,269	12,762	17,382	509	357	
Rural—89	179,735	98,094	81,641	129,770	71,146	58,624	47,620	28,058	22,635	29,364	891	1,202	
Rural—90	142,715	76,864	65,851	43,593	24,033	19,560	15,450	8,303	8,107	10,650	476	607	
Rural—91	200,795	109,040	91,755	136,726	74,728	61,998	48,946	29,397	23,478	31,610	2,304	991	
URBAN POPULATION													
Urban—35	66,145	39,385	26,760	63,502	37,958	25,544	20,976	1,413	16,673	24,019	309	112	

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM														
Livelihood Classes	Cultivation of owned land					Cultivation of unowned land								
	Total		Selfsupporting persons		Earning dependants	Total		Selfsupporting persons		Earning dependants				
	Males	Females	Males	Females	Males Females	Males	Females	Males	Females	Males Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13		
TOTAL POPULATION														
JALPAIGURI DISTRICT														
All Agricultural Classes—														
I—Cultivators of land wholly or mainly owned	1,143	223			1,143	223	2,338	73	677	11	1,661	62		
II—Cultivators of land wholly or mainly unowned	907	93	40	635	272	53	3,594	1,220	1		3,594	1,220		
III—Cultivating labourers	21		19		2		16	1			15	1		
IV—Non-cultivating owners of land; Agricultural rent receivers	21		18		3		73	1	18		55	1		
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—														
V—Production other than cultivation	2,337	341	2,279	314	58	27	823	63	771	9	52	54		
VI—Commerce	170	10	150	5	20	5	38		31		7			
VII—Transport	67	1	64		3	1	12		12					
VIII—Other services and miscellaneous sources	176	13	170	2	6	11	72	22	38		34	22		
Total	4,842	681	3,335	361	1,507	320	6,966	1,380	1,548	20	5,418	1,360		
NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM														
Livelihood Classes	Employment as cultivating labourers					Rent on agricultural land								
	Total		Selfsupporting persons		Earning dependants	Total		Selfsupporting persons		Earning dependants				
	Males	Females	Males	Females	Males Females	Males	Females	Males	Females	Males Females	Males	Females	Males	Females
14	15	16	17	18	19	20	21	22	23	24	25			
TOTAL POPULATION														
All Agricultural Classes—														
I—Cultivators of land wholly or mainly owned	300	77	28	8	272	69	143	6	123	4	20	2		
II—Cultivators of land wholly or mainly unowned	307	159	90	86	217	73	9	14	7	6	2	8		
III—Cultivating labourers	34	2			34	2								
IV—Non-cultivating owners of land; Agricultural rent receivers	5		1		4		3	4			3	4		
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—														
V—Production other than cultivation	112	27	83	4	29	23	210	9	17		193	9		
VI—Commerce	24	4	23	2	1	2	28		27		1			
VII—Transport	2		1		1		1		1					
VIII—Other services and miscellaneous sources	20		3		17		11		10		1			
Total	804	269	229	100	575	169	405	33	185	10	220	23		

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM												
Livelihood Classes	Production other than cultivation						Commerce					
	Total			Earning dependants			Total			Selfsupporting persons		
	Males	Females		Males	Females		Males	Females		Males	Females	Earning dependants
JALPAIGURI DISTRICT												
TOTAL POPULATION												
All Agricultural Classes—												
I—Cultivators of land wholly or mainly owned	2916	298	699	60	217	238	1,208	69	1,032	30	176	39
II—Cultivators of land wholly or mainly unowned	536	1,488	1,632	177	904	1,281	1,184	205	886	70	298	135
III—Cultivating labourers	86	66	52	2	34	64	35	1	27	1	8	..
IV—Non-cultivating owners of land; Agricultural rent receivers	29	1	20	..	9	1	79	7	61	3	18	4
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—												
V—Production other than cultivation	3,556	2,925	1,230	164	2,326	2,761	1,408	213	557	118	851	95
VI—Commerce	108	48	61	14	47	34	622	31	323	13	299	18
VII—Transport	42	60	16	3	26	57	30	12	20	1	10	11
VIII—Other services and miscellaneous sources	179	105	103	6	76	99	562	66	243	24	319	42
Total	7,452	4,961	3,813	426	3,639	4,535	5,128	604	3,149	260	1,979	344
NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM												
Livelihood Classes	Transport						Other services and miscellaneous sources					
	Total			Earning dependants			Total			Selfsupporting person		
	Males	Females		Males	Females		Males	Females		Males	Females	Earning dependants
TOTAL POPULATION												
All Agricultural Classes—												
I—Cultivators of land wholly or mainly owned	127	4	106	4	21	..	1,229	74	1,032	6	197	68
II—Cultivators of land wholly or mainly unowned	327	7	248	2	79	5	1,003	54	713	14	290	40
III—Cultivating labourers	1	..	1	..	..	..	51	7	39	4	12	3
IV—Non-cultivating owners of land; Agricultural rent receivers	9	..	9	..	..	..	68	14	54	6	14	8
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—												
V—Production other than cultivation	76	5	70	..	6	5	536	410	335	322	201	88
VI—Commerce	44	1	34	1	10	..	251	41	155	11	96	30
VII—Transport	9	..	4	..	5	..	31	8	24	..	7	8
VIII—Other services and miscellaneous sources	22	1	12	..	10	1	529	88	328	30	201	58
Total	615	18	484	7	131	11	3,698	696	2,680	393	1,018	303

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes													
1	Cultivation of owned land						Cultivation of unowned land						
	Total			Earning dependants			Total			Earning dependants			
	Males Females			Males Females			Males Females			Males Females			
	2	3	4	5	6	7	8	9	10	11	12	13	14
TOTAL POPULATION													
Rural Tract No. 87 (Police Stations—Jalpaiguri and Raiganj).													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned	66	23	..	..	66	23	625	20	369	7	556	13	..
II—Cultivators of land wholly or mainly unowned	382	10	335	..	47	10	546	30	..	..	546	30	..
III—Cultivating labourers	10	..	8	..	2	..	1	..	1	..	..	..	..
IV—Non-cultivating owners of land; Agricultural rent receivers	6	..	5	..	1	..	..	..	..	..	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation	126	66	125	66	1	..	55	..	55	..	..	..	..
VI—Commerce	39	6	36	2	3	4	10	..	7	..	3	..	..
VII—Transport	7	..	6	..	1	..	2	..	2	..	..	..	..
VIII—Other services and miscellaneous sources	65	11	62	1	3	10	46	..	30	..	16	..	..
Total	701	116	577	69	124	47	1,285	50	464	7	821	43	..

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes													
1	Employment as cultivating labourers						Rent on agricultural land						
	Total			Earning dependants			Total			Earning dependants			
	Males Females			Males Females			Males Females			Males Females			
	14	15	16	17	18	19	20	21	22	23	24	25	26
TOTAL POPULATION													
Rural Tract No. 87 (Police Stations—Jalpaiguri and Raiganj).													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned	18	..	9	..	9	..	19	1	19	1	..	..	..
II—Cultivators of land wholly or mainly unowned	24	..	10	..	14	..	..	..	..	..	..	..	..
III—Cultivating labourers	22	2	..	..	22	2	..	..	..	..	..	..	..
IV—Non-cultivating owners of land; Agricultural rent receivers	..	..	..	..	..	..	..	4	..	..	..	4	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation	3	..	..	..	3	..	1	..	1	..	..	..	..
VI—Commerce	22	..	22	..	..	..	18	..	17	..	1	..	..
VII—Transport	..	..	..	..	..	..	..	..	..	..	..	..	..
VIII—Other services and miscellaneous sources	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	89	2	41	..	48	2	38	5	37	1	1	4	..

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

Livelihood Classes	NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM									
	Production other than cultivation					Commerce				
	Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Rural Tract No. 87 (Police Stations—Jalpaiguri and Rajganj)	TOTAL POPULATION									
All Agricultural Classes—	26	27	28	29	30	31	32	33	34	35
I—Cultivators of land wholly or mainly owned	58	112	24	26	34	86	262	21	213	9
II—Cultivators of land wholly or mainly uncultivated	227	111	182	..	45	111	159	18	114	8
III—Cultivating labourers	8	24	8	..	..	24	19	1	15	1
IV—Non cultivating owners of land; Agricultural rent receivers	..	..	..	..	..	..	7	..	7	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—	103	121	36	7	67	114	38	37	27	6
V—Production other than cultivation	6	10	3	8	3	2	44	..	13	..
VI—Commerce	..	..	..	..	..	..	..	..	..	..
VII—Transport	..	..	..	..	..	..	..	..	..	..
VIII—Other services and miscellaneous sources	13	7	10	..	3	7	260	7	20	4
Total	415	385	263	41	152	344	789	84	409	28

Livelihood Classes	NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM									
	Transport					Other services and miscellaneous sources				
	Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Rural Tract No. 87 (Police Stations—Jalpaiguri and Rajganj)	TOTAL POPULATION									
All Agricultural Classes—	38	39	40	41	42	43	44	45	46	47
I—Cultivators of land wholly or mainly owned	25	1	21	1	4	..	267	18	212	2
II—Cultivators of land wholly or mainly uncultivated	23	..	15	..	8	..	181	10	126	1
III—Cultivating labourers	..	..	..	..	..	..	18	3	14	1
IV—Non cultivating owners of land; Agricultural rent receivers	2	..	2	..	..	..	4	..	4	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—	..	..	..	..	..	..	27	8	17	..
V—Production other than cultivation	..	..	..	..	..	..	23	3	16	..
VI—Commerce	..	..	..	..	..	..	1	..	1	..
VII—Transport	..	..	..	..	..	..	52	13	34	2
VIII—Other services and miscellaneous sources	..	..	..	..	..	..	..	..	..	..
Total	54	1	39	1	15	..	573	55	424	7

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

Livelihood Classes		NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM											
		Cultivation of owned land						Cultivation of unowned land					
		Total			Earning dependants			Total			Selfsupporting persons		
		Males	Females		Males	Females		Males	Females		Males	Females	
1		2	3	4	5	6	7	8	9	10	11	12	13
TOTAL POPULATION													
Rural Tract No. 98 (Police Stations—Mainaguri and Dhupguri)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned		291	15	..	..	291	15	192	4	68	2	124	2
II—Cultivators of land wholly or mainly unowned		65	3	51	2	14	1	365	30	..	..	365	30
III—Cultivating labourers		..	..	..	..	..	..	..	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers		8	..	7	..	1	..	47	..	14	..	33	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation		149	7	148	7	1	..	520	10	513	2	7	8
VI—Commerce		14	..	13	..	1	..	7	..	7	..	..	..
VII—Transport		3	..	3	..	..	..	1	..	1	..	..	..
VIII—Other services and miscellaneous sources		23	..	22	..	1	..	2	..	2	..	..	..
Total		553	25	244	9	309	16	1,134	44	605	4	529	40

Livelihood Classes		NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM											
		Employment as cultivating labourers						Rent on agricultural land					
		Total			Earning dependants			Total			Selfsupporting persons		
		Males	Females		Males	Females		Males	Females		Males	Females	
		14	15	16	17	18	19	20	21	22	23	24	25
TOTAL POPULATION													
Rural Tract No. 98 (Police Stations—Mainaguri and Dhupguri)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned		23	9	10	7	13	2	4	..	4	..	..	..
II—Cultivators of land wholly or mainly unowned		20	22	9	..	11	22	..	1	..	1	..	..
III—Cultivating labourers		..	..	..	..	..	..	..	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers		5	..	1	..	4	..	..	..	..	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation		1	2	..	2	1	..	5	9	5	..	..	9
VI—Commerce		..	1	..	1	..	..	4	..	4	..	..	..
VII—Transport		..	..	..	..	..	..	..	..	..	..	..	..
VIII—Other services and miscellaneous sources		1	..	..	..	1	..	..	..	..	..	..	..
Total		50	34	20	10	30	24	13	10	13	1	..	9

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM

Livelihood Classes	Production other than cultivation						Commerce					
	Total			Selfsupporting persons			Total			Selfsupporting persons		
	Earning dependants			Earning dependants			Earning dependants			Earning dependants		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
Rural Tract No. 88 (Police Stations—Mainaguri and Dhupguri)												
All Agricultural Classes—												
I—Cultivators of land wholly or mainly owned	260	60	208	21	52	39	366	7	39	18		
II—Cultivators of land wholly or mainly unowned	406	123	316	13	90	110	338	3	297	1	41	2
III—Cultivating labourers	15	..	15	..	..	..	..	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers	8	..	6	..	2	..	24	..	9	..	15	..
All Non Agricultural Classes (persons who derive their principal means of livelihood from)—												
V—Production other than cultivation	834	291	627	44	207	247	154	127	124	99	30	28
VI—Commerce	21	9	12	2	9	7	171	11	54	4	117	7
VII—Transport	4	3	3	..	1	3	3	1	1	1	2	..
VIII—Other services and miscellaneous sources	44	25	16	..	28	25	33	4	22	..	11	4
Total	1,592	511	1,293	80	389	431	1,128	171	873	112	255	59

TOTAL POPULATION

NUMBER OF PERSONS DRIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM

Livelihood Classes	Transport						Other services and miscellaneous sources					
	Total			Selfsupporting persons			Total			Selfsupporting persons		
	Earning dependants			Earning dependants			Earning dependants			Earning dependants		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
Rural Tract No. 88 (Police Stations—Mainaguri and Dhupguri)												
All Agricultural Classes—												
I—Cultivators of land wholly or mainly owned	11	2	11	2	..	..	348	2	300	..	48	2
II—Cultivators of land wholly or mainly unowned	29	..	29	..	..	..	301	8	234	..	67	8
III—Cultivating labourers	..	..	..	..	..	..	4	..	2	..	2	..
IV—Non-cultivating owners of land ; Agricultural rent receivers	1	..	1	..	..	..	19	..	11	..	8	..
All Non Agricultural Classes (persons who derive their principal means of livelihood from)—												
V—Production other than cultivation	37	..	37	..	..	..	99	16	49	4	50	12
VI—Commerce	9	..	4	..	5	..	58	3	46	..	12	3
VII—Transport	4	..	1	..	3	..	4	..	3	..	1	..
VIII—Other services and miscellaneous sources	5	1	..	..	5	1	61	3	45	..	16	3
Total	98	3	83	2	13	1	894	32	690	4	201	28

TOTAL POPULATION

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

Livelihood Classes		NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM											
		Cultivation of owned land						Cultivation of uncultivated land					
		Total		Self-supporting persons		Earning dependants		Total		Self-supporting persons		Earning dependants	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1		2	3	4	5	6	7	8	9	10	11	12	13
TOTAL POPULATION													
Rural Tract No. 89 (Police Stations—Nagrakata, Mal and Matiali)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned		124	19			124	19	62		25		37	
II—Cultivators of land wholly or mainly uncultivated		122	16	45		77	16	128	1			128	1
III—Cultivating labourers		2		2									
IV—Non-cultivating owners of land ; Agricultural rent receivers		5		5				6		4		2	
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation		1,504	190	1,475	187	29	3	157	7	155	4	2	3
VI—Commerce		20		20				10		10			
VII—Transport		51	1	49		2	1	4		4			
VIII—Other services and miscellaneous sources		8		8				3		1		2	
Total		1,836	226	1,604	187	232	39	370	8	199	4	171	4
Rural Tract No. 89 (Police Stations—Nagrakata, Mal and Matiali)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned		1	8	1			8	18		17		1	
II—Cultivators of land wholly or mainly uncultivated		32	2			32	2	4		2		2	
III—Cultivating labourers		3				3							
IV—Non-cultivating owners of land ; Agricultural rent receivers								3				3	
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation		69	1	68		1	1	175		7		168	
VI—Commerce			2				2						
VII—Transport		1		1									
VIII—Other services and miscellaneous sources		1				1							
Total		107	13	70		37	13	200		26		174	

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes													
Production other than cultivation							Commerce						
Total		Selfsupporting persons		Earning dependants		Total	Selfsupporting persons		Earning dependants		Total	Selfsupporting persons	
Males	Females	Males	Females	Males	Females		Males	Females	Males	Females		Males	Females
26	27	28	29	30	31	32	33	34	35	36	37	38	39
TOTAL POPULATION													
Rural Tract No. 89 (Police Stations—Nagrakata, Mal and Matiali)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned	116	59	69	1	47	58	134	2	122	1	12	1	1
II—Cultivators of land wholly or mainly unowned	1,003	730	599	16	404	714	202	5	169	1	33	4	4
III—Cultivating labourers	29	20	13	..	16	20	5	..	3	..	2	..	..
IV—Non-cultivating owners of land; Agricultural rent receivers	11	1	5	..	6	1	22	..	20	..	2	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation	698	1,163	155	91	543	1,072	143	9	123	3	20	6	6
VI—Commerce	13	8	12	..	1	8	59	..	50	..	9	..	..
VII—Transport	14	20	5	3	9	17	6	2	6	..	..	2	2
VIII—Other services and miscellaneous sources	50	40	30	3	20	37	37	6	22	..	15	6	6
Total	1,934	2,041	888	114	1,046	1,927	608	24	515	5	93	19	19
NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes													
Transport							Other services and miscellaneous sources						
Total		Selfsupporting persons		Earning dependants		Total	Selfsupporting persons		Earning dependants		Total	Selfsupporting persons	
Males	Females	Males	Females	Males	Females		Males	Females	Males	Females		Males	Females
38	39	40	41	42	43	44	45	46	47	48	49	50	51
TOTAL POPULATION													
Rural Tract No. 89 (Police Stations—Nagrakata, Mal and Matiali)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned	21	17	..	4	..	138	1	115	..	23	1	23	1
II—Cultivators of land wholly or mainly unowned	87	75	2	12	..	113	8	84	2	29	6	29	6
III—Cultivating labourers	..	..	..	..	..	13	..	8	..	5	..	5	..
IV—Non-cultivating owners of land; Agricultural rent receivers	4	4	..	..	..	14	..	12	..	2	..	2	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivating	24	22	..	2	5	209	338	162	317	47	21	47	21
VI—Commerce	13	13	..	1	..	33	..	28	..	5	..	5	..
VII—Transport	1	..	..	1	..	3	5	2	..	1	5	1	5
VIII—Other services and miscellaneous sources	2	1	..	1	..	21	14	9	1	12	13	12	13
Total	152	7	132	2	20	5	544	366	420	320	124	46	46

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM														
Livelihood Classes														
Cultivation of owned land														
Total			Selfsupporting persons			Earning dependants			Total			Selfsupporting persons		
Males		Females	Males		Females	Males		Females	Males		Females	Males		Females
2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Rural Tract No. 90 (Police Stations—Alipur Duars and Kumargram)														
All Agricultural Classes—														
I—Cultivators of land wholly or mainly owned														
II—Cultivators of land wholly or mainly unowned														
III—Cultivating labourers														
IV—Non-cultivating owners of land ; Agricultural rent receivers														
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—														
V—Production other than cultivation														
VI—Commerce														
VII—Transport														
VIII—Other services and miscellaneous sources														
Total														

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM														
Livelihood Classes														
Cultivation of unowned land														
Total			Selfsupporting persons			Earning dependants			Total			Selfsupporting persons		
Males		Females	Males		Females	Males		Females	Males		Females	Males		Females
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Rural Tract No. 90 (Police Stations—Alipur Duars and Kumargram)														
All Agricultural Classes—														
I—Cultivators of land wholly or mainly owned														
II—Cultivators of land wholly or mainly unowned														
III—Cultivating labourers														
IV—Non-cultivating owners of land ; Agricultural rent receivers														
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—														
VI—Production other than cultivation														
VII—Commerce														
VIII—Transport														
IX—Other services and miscellaneous sources														
Total														

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes													
Production other than cultivation							Commerce						
Total		Selfsupporting persons		Earning dependants		Total	Selfsupporting persons		Earning dependants		Total	Selfsupporting persons	
Males	Females	Males	Females	Males	Females		Males	Females	Males	Females		Males	Females
26	27	23	29	30	31	32	33	34	35	36	37	38	39
TOTAL POPULATION													
Rural Tract No. 90 (Police Stations—Alipur Duars and Kumargram)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned	193	18	138	55	18	245	9	192	5	53	4	5	4
II—Cultivators of land wholly or mainly unowned	519	103	282	4	237	355	24	191	5	164	19	5	19
III—Cultivating labourers	8	6	7	1	6	4	..	2	..	2	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers	1	..	1	..	..	5	..	4	..	1	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than Cultivation	242	566	13	..	229	566	15	13	..	2	..	..	..
VI—Commerce	10	2	8	2	2	20	..	13	..	7	..	..	..
VII—Transport	1	12	..	1	12	1	..	..	..	1	..	..	..
VIII—Other services and miscellaneous sources	14	..	13	1	..	28	2	16	..	12	2	..	2
Total	988	707	462	4	526	703	35	431	10	242	25	10	25
NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes													
Transport							Other services and miscellaneous sources						
Total		Selfsupporting persons		Earning dependants		Total	Selfsupporting persons		Earning dependants		Total	Selfsupporting persons	
Males	Females	Males	Females	Males	Females		Males	Females	Males	Females		Males	Females
38	39	40	41	42	43	44	45	46	47	48	49	50	51
TOTAL POPULATION													
Rural Tract No. 90 (Police Stations—Alipur Duars and Kumargram)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned	40	30	..	10	..	244	18	185	1	59	17	1	17
II—Cultivators of land wholly or mainly unowned	72	29	..	43	..	219	9	108	6	111	3	6	13
III—Cultivating labourers	..	..	..	..	..	4	..	4	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers	..	..	..	..	..	15	..	12	..	3	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation	1	1	..	..	..	14	..	8	..	6	..	..	..
VI—Commerce	..	..	..	..	..	38	13	12	..	26	13	..	..
VII—Transport	1	..	..	1	..	..	..	..	..	104	..	..	..
VIII—Other services and miscellaneous sources	..	..	..	..	..	112	..	8	..	..	..	..	..
Total	114	60	..	54	..	646	40	337	7	309	33	7	33

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

Livelihood Classes		NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM											
		Cultivation of owned land						Cultivation of unowned land					
		Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons		Earning dependants	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1		2	3	4	5	6	7	8	9	10	11	12	13
TOTAL POPULATION													
Rural Tract No. 91 (Police Stations—Madarihat, Falakata and Kalchini)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned		19	153	..	..	19	153	889	11	51	..	838	11
II—Cultivators of land wholly or mainly unowned		185	64	66	38	119	26	1,653	940	..	..	1,653	940
III—Cultivating labourers		3	..	3	..	..	..	15	1	..	..	15	1
IV—Non-cultivating owners of land ; Agricultural rent receivers		1	..	..	..	1	..	20	..	..	..	20	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation		522	77	502	53	20	24	70	46	31	3	39	43
VI—Commerce		23	..	16	..	7	..	6	..	2	..	4	..
VII—Transport		1	..	1	..	..	..	3	..	3	..	..	..
VIII—Other services and miscellaneous sources		18	..	18	..	..	..	1	10	1	..	..	10
Total		772	294	606	91	166	203	2,657	1,008	88	3	2,569	1,008
NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM													
Livelihood Classes		Employment as cultivating labourers						Rent on agricultural land					
		Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons		Earning dependants	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
		14	15	16	17	18	19	20	21	22	23	24	25
TOTAL POPULATION													
Rural Tract No. 91 (Police Stations—Madarihat, Falakata and Kalchini)													
All Agricultural Classes—													
I—Cultivators of land wholly or mainly owned		6	17	..	..	6	17	14	3	14	1	..	2
II—Cultivators of land wholly or mainly unowned		4	116	4	81	..	35	5	13	5	5	..	8
III—Cultivating labourers		3	..	..	..	3	..	..	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers		..	..	..	..	..	..	..	..	..	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—													
V—Production other than cultivation		7	24	7	2	..	22	1	..	1	..	..	..
VI—Commerce		2	..	1	..	1	..	3	..	3	..	..	..
VII—Transport		..	..	..	..	..	..	..	..	..	..	..	..
VIII—Other services and miscellaneous sources		17	..	2	..	15	..	1	..	1	..	..	..
Total		39	157	14	83	25	74	24	16	24	6	..	10

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM												
Livelihood Classes												
Production other than cultivation						Commerce						
Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons		Earning dependants		
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	
26	27	28	29	30	31	32	33	34	35	36	37	
TOTAL POPULATION												
285	48	256	11	29	37	129	10	109	7	20	3	
376	391	248	144	128	247	118	153	103	54	15	99	
25	16	8	2	17	14	3	..	3	..	..	..
8	..	7	..	1	..	9	4	9	..	..	4
1,639	778	389	21	1,250	757	1,019	26	248	6	771	20	
24	7	13	..	11	7	133	2	84	..	49	2	
22	24	7	..	15	24	3	3	2	..	1	3	
24	22	12	..	12	22	28	3	27	..	1	3	
2,403	1,286	940	178	1,463	1,108	1,442	201	585	67	857	134	
NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM												
Transport												
Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons		Earning dependants		
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	
38	39	40	41	42	43	44	45	46	47	48	49	
TOTAL POPULATION												
28	..	25	..	3	..	226	35	214	3	12	32	
101	5	85	..	16	5	184	18	158	4	26	14	
1	..	1	..	..	..	10	3	9	3	1	..
2	..	2	..	..	..	12	14	11	6	1	8
12	..	10	..	2	..	157	40	86	1	71	39	
11	..	10	..	1	..	43	2	21	1	22	1	
..	..	..	..	..	..	10	..	10	..	..	..
2	..	1	..	1	..	66	14	55	..	11	14	
157	5	134	..	23	5	708	126	564	18	144	108	

Rural Tract No. 91 (Police Stations—Madarihah, Falakata and Kachini)												
All Agricultural Classes—												
I—Cultivators of land wholly or mainly owned												
II—Cultivators of land wholly or mainly unowned												
III—Cultivating labourers												
IV—Non-cultivating owners of land; Agricultural rent receivers												
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—												
V—Production other than cultivation												
VI—Commerce												
VII—Transport												
VIII—Other services and miscellaneous sources												
Total												

Rural Tract No. 91 (Police Stations—Madarihah Falakata and Kachini)												
All Agricultural Classes—												
I—Cultivators of land wholly or mainly owned												
II—Cultivators of land wholly or mainly unowned												
III—Cultivating labourers												
IV—Non-cultivating owners of land; Agricultural rent receivers												
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—												
V—Production other than cultivation												
VI—Commerce												
VII—Transport												
VIII—Other services and miscellaneous sources												
Total												

Rural Tract No. 91 (Police Stations—Madarihat, Falakata and Kachhini)

All Agricultural Classes—
 I—Cultivators of land wholly or mainly owned
 II—Cultivators of land wholly or mainly unowned
 III—Cultivating labourers
 IV—Non-cultivating owners of land; Agricultural rent receivers

All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—
 V—Production other than cultivation
 VI—Commerce
 VII—Transport
 VIII—Other services and miscellaneous sources

Total

Livelihood Classes

Rural Tract No. 91 (Police Stations—Madarihat Falakata and Kachhini)

All Agricultural Classes—
 I—Cultivators of land wholly or mainly owned
 II—Cultivators of land wholly or mainly unowned
 III—Cultivating labourers
 IV—Non-cultivating owners of land; Agricultural rent receivers

All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—
 V—Production other than cultivation
 VI—Commerce
 VII—Transport
 VIII—Other services and miscellaneous sources

Total

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—contd.

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM														
Livelihood Classes	Cultivation of unowned land													
	Cultivation of owned land						Cultivation of unowned land							
	Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons		Earning dependants			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13		
TOTAL POPULATION														
Urban Tract No. 35 (Towns—Jalpaiguri and Alipur Duar)														
All Agricultural Classes—														
I—Cultivators of land wholly or mainly owned	2	1	..	..	2	1	10	..	10	..	..	..	..	..
II—Cultivators of land wholly or mainly unowned	11	..	7	..	4	..	..	..	..	..	..	..	..	..
III—Cultivating labourers	2	..	2	..	..	..	..	..	..	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers	1	..	1	..	..	..	..	..	..	..	..	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—														
V—Production other than cultivation	7	1	6	1	1	..	..	..	..	..	..	..	..	..
VI—Commerce	33	4	32	3	1	1	1	..	1	..	..	..	..	..
VII—Transport	5	..	5	..	..	..	..	..	..	..	..	..	..	..
VIII—Other services and miscellaneous sources	58	2	56	1	2	1	3	..	3	..	..	..	..	..
Total	119	8	109	5	10	3	14	..	14	..	..	..	..	..

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM														
	Livelihood Classes													
	Employment as cultivating labourers						Rent on Agricultural land							
	Total		Selfsupporting persons		Earning dependants		Total		Selfsupporting persons		Earning dependants			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
	14	15	16	17	18	19	20	21	22	23	24	25		
	TOTAL POPULATION													
Urban Tract No. 35 (Towns—Jalpaiguri and Alipur Duar)														
All Agricultural Classes—														
I—Cultivators of land wholly or mainly owned	..	1	..	..	..	1	1	..	1	..	..	..	..	..
II—Cultivators of land wholly or mainly unowned	..	..	..	..	..	..	..	..	..	..	..	..	..	..
III—Cultivating labourers	..	..	..	..	..	..	..	..	..	..	..	..	..	..
IV—Non-cultivating owners of land ; Agricultural rent receivers	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—														
V—Production other than cultivation	..	..	..	..	..	..	3	..	3	..	..	..	..	..
VI—Commerce	..	..	..	..	..	..	2	..	2	..	..	..	..	..
VII—Transport	..	..	..	..	..	..	..	..	..	..	..	..	..	..
VIII—Other services and miscellaneous sources	1	..	1	..	..	..	10	..	9	..	1	..	..	..
Total	1	1	1	..	..	1	16	..	15	..	1	..	..	..

TABLE 1.10—ECONOMIC TABLE II—SECONDARY MEANS OF LIVELIHOOD—concl'd.

Livelihood Classes	NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM									
	Production other than cultivation					Commerce				
	Total		Self-supporting persons		Earning dependants	Total		Self-supporting persons		Earning dependants
	Males	Females	Males	Females		Males	Females	Males	Females	
Urban Tract No. 35 (Towns—Jalpaiguri and Alipur Duar)										
All Agricultural Classes—										
I—Cultivators of land wholly or mainly owned	4	1	4	1	..	33	2	30	1	3
II—Cultivators of land wholly or mainly unowned	5	..	5	..	..	12	2	12	1	1
III—Cultivating labourers	1	..	1	..	..	4	..	4	..	..
IV—Non-cultivating owners of land; Agricultural rent receivers	1	..	1	..	..	12	3	12	3	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—										
V—Production other than cultivation	40	6	10	1	30	5	39	14	22	4
VI—Commerce	34	12	13	4	21	8	195	18	109	9
VII—Transport	1	1	1	..	..	1	17	6	11	6
VIII—Other services and miscellaneous sources	34	11	22	3	12	8	176	44	136	20
Total	129	31	57	9	63	22	488	89	336	38
										152
										51

TOTAL POPULATION

NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM

Livelihood Classes	NUMBER OF PERSONS DERIVING THEIR SECONDARY MEANS OF LIVELIHOOD FROM									
	Transport					Other services and miscellaneous sources				
	Total		Self-supporting persons		Earning dependants	Total		Self-supporting persons		Earning dependants
	Males	Females	Males	Females		Males	Females	Males	Females	
Urban Tract No. 35 (Towns—Jalpaiguri and Alipur Duar)										
All Agricultural Classes—										
I—Cultivators of land wholly or mainly owned	2	1	2	1	..	6	..	6	..	..
II—Cultivators of land wholly or mainly unowned	15	..	15	..	..	5	1	3	1	2
III—Cultivating labourers	..	..	..	..	..	2	1	2	..	1
IV—Non-cultivating owners of land; Agricultural rent receivers	..	..	..	..	..	4	..	4	..	..
All Non-Agricultural Classes (persons who derive their principal means of livelihood from)—										
V—Production other than cultivation	2	..	..	..	2	30	8	13	..	17
VI—Commerce	9	1	7	1	2	54	20	32	9	24
VII—Transport	3	..	3	..	..	13	3	8	..	5
VIII—Other services and miscellaneous sources	11	..	9	..	2	217	44	177	27	40
Total	42	2	36	2	6	333	77	245	37	88
										40

TOTAL POPULATION

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS**

JALPAIGURI DISTRICT

Division and Subdivision of Industries and Services and Tract		Persons following the occupation as							
		Total		Employers		Employees		Independent workers	
		Males	Females	Males	Females	Males	Females	Males	Females
1		2	3	4	5	6	7	8	9
All Industries and Services	Total	168,730	82,871	2,618	52	133,851	79,576	32,261	3,243
	Rural	148,460	81,487	2,150	40	123,814	78,856	22,496	2,591
	Urban	20,270	1,384	468	12	10,037	720	9,765	652
	Rural—87	8,257	2,737	398	16	5,726	2,192	2,133	529
	Rural—88	28,312	13,116	102	1	23,519	12,474	4,691	641
	Rural—89	47,510	28,019	196	5	43,614	27,565	3,700	449
	Rural—90	15,435	8,271	9	2	11,545	7,878	3,881	391
	Rural—91	48,946	29,344	1,445	16	39,410	28,747	8,091	581
Urban—35		20,270	1,384	468	12	10,037	720	9,765	652
Division-0—Primary Industries not elsewhere specified	Total	103,041	78,241	27	4	101,014	77,771	2,000	466
	Rural	102,455	78,199	16	3	100,683	77,744	1,756	452
	Urban	586	42	11	1	331	27	244	14
	Rural—87	2,845	2,108	..	..	2,811	2,076	34	32
	Rural—88	18,226	12,320	..	..	18,039	12,315	187	5
	Rural—89	37,728	27,421	12	3	37,560	27,386	156	32
	Rural—90	10,257	7,755	..	..	10,192	7,755	65	..
	Rural—91	33,399	28,595	4	..	32,081	28,212	1,314	383
Urban—35		586	42	11	1	331	27	244	14
0.1—Stock Raising	Total	679	18	4	2	481	11	194	5
	Rural	659	15	4	2	472	11	183	2
	Urban	20	3	..	..	9	..	11	3
	Rural—87	7	..	..	..	6	..	1	..
	Rural—88	83	3	..	..	72	1	11	2
	Rural—89	91	7	2	2	76	5	13	..
	Rural—90	77	1	..	..	19	1	58	..
	Rural—91	401	4	2	..	299	4	100	..
Urban—35		20	3	..	..	9	..	11	3
0.2—Rearing of small animals and insects	Total	5	..	..	..	2	..	3	..
	Rural	3	..	..	..	..	..	3	..
	Urban	2	..	..	..	2	..	..	..
	Rural—87	3	..	..	..	..	..	3	..
Urban—35		2	..	..	..	2	..	..	..
0.3—Plantation Industries	Total	99,890	78,176	15	1	98,771	77,728	1,104	447
	Rural	99,442	78,138	4	..	98,494	77,702	944	436
	Urban	448	38	11	1	277	26	160	11
	Rural—87	2,800	2,108	..	..	2,772	2,076	28	32
	Rural—88	17,552	12,287	..	..	17,488	12,287	64	..
	Rural—89	37,203	27,408	4	..	37,103	27,381	96	27
	Rural—90	9,897	7,754	..	..	9,897	7,754	..	..
	Rural—91	31,990	28,581	..	..	31,234	28,204	756	377
Urban—35		448	38	11	1	277	26	160	11

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract		Persons following the occupation as							
		Total		Employers		Employees		Independent workers	
		Males	Females	Males	Females	Males	Females	Males	Females
1		2	3	4	5	6	7	8	9
0.4—Forestry and collection of pro- ducts not elsewhere specified	{ Total	1,915	44	8	1	1,756	32	151	11
	{ Rural	1,819	43	8	1	1,713	31	98	11
	{ Urban	96	1	..	..	43	1	53	..
	Rural—87	33	..	..	..	33	..	..	..
	Rural—88	481	27	..	..	476	27	5	..
	Rural—89	431	6	6	1	381	..	44	5
	Rural—90	276	..	..	..	276	..	..	..
	Rural—91	598	10	2	..	547	4	49	6
	Urban—35	96	1	..	..	43	1	53	..
0.6—Fishing	{ Total	552	3	..	..	4	..	548	3
	{ Rural	532	3	..	..	4	..	528	3
	{ Urban	20	..	..	..	..	..	20	..
	Rural—87	2	..	..	..	..	..	2	..
	Rural—88	110	3	..	..	3	..	107	3
	Rural—89	3	..	..	..	..	..	3	..
	Rural—90	7	..	..	..	..	..	7	..
	Rural—91	410	..	..	..	1	..	409	..
	Urban—35	20	..	..	..	..	..	20	..
Division 1—Mining and Quarrying	{ Total	210	2	9	..	133	1	68	1
	{ Rural	48	2	..	..	48	1	..	1
	{ Urban	162	..	9	..	85	..	68	..
	Rural—87	..	1	..	..	..	..	..	1
	Rural—89	48	1	..	..	48	1	..	..
	Urban—35	162	..	9	..	85	..	68	..
1.1—Coal mining—Mines primarily engaged in the extraction of anthracite and of soft coals such as bituminous, sub bituminous and lignite	{ Total	33	1	..	..	33	1	..	..
	{ Rural	31	1	..	..	31	1	..	..
	{ Urban	2	..	..	..	2	..	..	..
	Rural—89	31	1	..	..	31	1	..	..
	Urban—35	2	..	..	..	2	..	..	..
1.2—Iron ore mining	{ Total	75	1	3	..	42	..	30	1
	{ Rural	..	1	..	..	..	..	..	1
	{ Urban	75	..	3	..	42	..	30	..
	Rural—87	..	1	..	..	..	..	..	1
	Urban—35	75	..	3	..	42	..	30	..
1.3—Metal mining except iron ore mining—	{ Total	85	..	6	..	41	..	38	..
	{ Rural	..	..	..	..	..	..	..	..
	{ Urban	85	..	6	..	41	..	38	..
	Urban—35	85	..	6	..	41	..	38	..
1.5—Stone-quarrying, clay and sand pits, extraction from the earth of stone, clay, sand and other materials used in building or manufacture of cement	{ Total	17	..	..	..	17	..	..	..
	{ Rural	17	..	..	..	17	..	..	..
	{ Urban								
	Rural—89	17				17			

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract			Persons following the occupation as							
			Total		Employers		Employees		Independent workers	
			Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9		
Division 2—Processing and Manu- facture— Foodstuffs, Textiles, Leather and Products thereof	Total	3,069	1,198	157	3	793	45	2,119	1,150	
	Rural	2,085	1,142	91	3	399	19	1,595	1,120	
	Urban	984	56	66	..	394	26	524	30	
Rural - 87	233	371	..	1	22	2	211	368		
Rural - 88	586	435	..	..	191	5	395	430
Rural - 89	225	78	6	1	44	6	175	71		
Rural - 90	92	176	..	..	..	..	92	176
Rural - 91	949	82	85	1	142	6	722	75		
Urban—35	984	56	66	..	394	26	524	30		
2.0 -Food Industries otherwise un- classified	Total	142	11	3	..	91	8	48	3	
	Rural	52	4	14	1	38	3	
	Urban	90	7	3	..	77	7	10	..	
Rural - 87	9	3	..	..	..	..	9	3
Rural - 88	25	1	..	..	6	1	19	..
Rural - 89	5	..	..	..	..	..	5	..
Rural - 91	13	..	..	..	8	..	5	..
Urban—35	90	7	3	..	77	7	10	..		
2.1 - Grams and pulses	Total	405	1,098	10	2	232	20	163	1,076	
	Rural	226	1,063	4	2	120	7	102	1,054	
	Urban	179	35	6	..	112	13	61	22	
Rural - 87	59	350	..	1	..	..	59	349
Rural - 88	137	408	..	..	112	..	25	408
Rural - 89	17	68	4	1	8	2	5	65		
Rural - 90	12	167	..	..	..	..	12	167
Rural - 91	1	70	..	..	..	5	1	65
Urban—35	179	35	6	..	112	13	61	22		
2.2- Vegetable oil and dairy pro- ducts	Total	171	10	68	4	103	6	
	Rural	155	10	62	4	93	6	
	Urban	16	6	..	10	..	
Rural—87	17	2	..	..	16	1	1	1
Rural - 88	57	1	..	..	11	..	46	1
Rural - 89	19	6	..	..	11	3	8	3
Rural - 90	3	1	..	..	..	..	3	1
Rural - 91	59	..	..	..	24	..	35	..
Urban—35	16	..	..	..	6	..	10	..
2.3—Sugar Industries	Total	5	1	..	1	5	..	
	Rural	3	1	..	1	3	..	
	Urban	2	2	..	
Rural—87	3	..	..	..	..	..	3	..
Rural—91	..	1	..	1	..	..	..	..
Urban—35	2	..	..	..	..	..	2	..
2.4—Beverages	Total	4	1	..	3	..	
	Rural	3	3	..	
	Urban	1	1	
Rural—87	2	..	..	..	..	..	2	..
Rural—90	1	..	..	..	..	..	1	..
Urban—35	1	..	..	..	1	..	..	..

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract				Persons following the occupation as							
				Total		Employers		Employees		Independent workers	
						Males	Females	Males	Females	Males	Females
				Males	Females	Males	Females	Males	Females	Males	Females
				2	3			6	8		
2.5- Tobacco	{ Total Rural Urban		261	15	18		83		160	14	
			93	9	..		43		50	8	
			168	6	18		40		110	6	
	Rural	87	30	1	..			28	1		
	Rural	88	43	3	..		40	3	3		
	Rural	89	15	1	..		1	14	..		
	Rural	90	5	4	..			5	4		
	Urban	35	168		18		40				
2.6- Cotton textiles	{ Total Rural Urban		278	32	3		30	6	245	26	
			225	27	..		5	1	220	26	
			53	5	3		25	5	25	..	
	Rural	87	59	10			1	58	9		
	Rural	88	140	13			..	140	13		
	Rural	89	5				..	5	..		
	Rural	90	12	4				12	4		
	Rural	91	9	..		4		5	..		
Urban	35	53				25		25			
2.7--Wearing apparel (except foot- wear) and made up textile goods	{ Total Rural Urban		1,286	25	79		245	4	962	21	
			985	22	53		147	3	785	19	
			301	3	26		98	1	177	2	
	Rural	87	42	4	..		3	..	39	4	
	Rural	88	137	4	..		22	2	115	2	
	Rural	89	130	3	1		21	..	108	3	
	Rural	90	54	..	..		..	..	54	..
	Rural	91	622	11	52		101	1	469	10	
Urban	35	301	3	26		98		177			
2.8—Textile Industries otherwise unclassified	{ Total Rural Urban		64	..	6		15		43		
			9	..	..		..		9	
			55	..	6		15		34		
	Rural	87							4		
	Rural	89							3		
	Rural	90							2		
	Rural	91									
	Urban	35	55				15		34		
2.9—Leather, leather products and footwear	{ Total Rural Urban		453	6	38		28	2	387	4	
			334	6	34		8	2	292	4	
			119	..	4		20	..	95	..	
	Rural	87	8	1	..		..	..	8	1
	Rural	88	47	5	..		..	2	47	3
	Rural	89	31	..	1		3	..	27	..	
	Rural	90	3	..	..		..	..	3	..
	Rural	91	245	..	33		5	..	207	..	
Urban	35	119	..	4		20		95			

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract		Persons following the occupation as							
		Total		Employers		Employees		Independent workers	
		Males	Females	Males	Females	Males	Females	Males.	Females
1		2	3	4	5	6	7	8	9
Division 3—Processing and Manu- facture—Metals, Chemicals and Products thereof	{ Total .	1,905	10	89	..	693	6	1,123	4
	{ Rural .	1,240	3	62	..	256	..	922	3
	{ Urban .	665	7	27	..	437	6	201	1
Rural—87	. . . . .	57	..	..	..	5	..	52	..
Rural—88	. . . . .	108	2	..	..	31	..	77	2
Rural—89	. . . . .	49	..	..	..	12	..	37	..
Rural—90	. . . . .	47	..	..	..	8	..	39	..
Rural—91	. . . . .	979	1	62	..	200	..	717	1
Urban—35	. . . . .	665	7	27	..	437	6	201	1
3.0—Manufacture of metal products, otherwise unclassified	{ Total .	936	5	19	..	61	1	856	4
	{ Rural .	807	3	7	..	21	..	779	3
	{ Urban .	129	2	12	..	40	1	77	1
Rural—87	. . . . .	18	..	..	..	..	..	18	..
Rural—88	. . . . .	67	2	..	..	3	..	64	2
Rural—89	. . . . .	26	..	..	..	5	..	21	..
Rural—90	. . . . .	42	..	..	..	3	..	39	..
Rural—91	. . . . .	654	1	7	..	10	..	637	1
Urban—35	. . . . .	129	2	12	..	40	1	77	1
3.1—Iron and Steel (Basic Manu- facture)—Manufacture of iron and steel, including all processes such as smelting and refining; rolling and drawing; and alloying and the manufacture of castings, forgings and other basic forms of ferrous metals	{ Total .	9	..	..	..	..	..	9	..
	{ Rural .	9	..	..	..	..	..	9	..
	{ Urban .	..	..	..	..	..	..	..	..
Rural—87	. . . . .	8	..	..	..	..	..	8	..
Rural—89	. . . . .	1	..	..	..	..	..	1	..
3.3—Transport Equipment	{ Total .	743	5	65	..	503	5	175	..
	{ Rural .	394	..	55	..	216	..	123	..
	{ Urban .	349	5	10	..	287	5	52	..
Rural—87	. . . . .	29	..	..	..	3	..	26	..
Rural—88	. . . . .	13	..	..	..	11	..	2	..
Rural—89	. . . . .	22	..	..	..	7	..	15	..
Rural—90	. . . . .	5	..	..	..	5	..	..	..
Rural—91	. . . . .	325	..	55	..	190	..	80	..
Urban—35	. . . . .	349	5	10	..	287	5	52	..
3.4—Electrical machinery, appara- tus, appliances and supplies	{ Total .	18	..	..	..	18	..	..	..
	{ Rural .	11	..	..	..	11	..	..	..
	{ Urban .	7	..	..	..	7	..	..	..
Rural—87	. . . . .	2	..	..	..	2	..	..	..
Rural—88	. . . . .	9	..	..	..	9	..	..	..
Urban—35	. . . . .	7	..	..	..	7	..	..	..

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract	Persons following the occupation as								
	Total		Employers		Employees		Independent workers		
	Males	Females	Males	Females	Males	Females	Males	Females	
	3				6		8		9
3.5—Machinery (other than electrical machinery) including Engineering Workshops- Engineering workshops engaged in producing machine and equipment parts	Total	31				17		14	.
	Rural	2				..		2	.
	Urban	29				17		12	.
Rural—88		2	..	..				2	
Urban—35		29	..	..		17		12	
3.8—Manufacture of chemical products otherwise unclassified	Total	168	..	5	.	94	..	69	..
	Rural	151	..	..	.	8	..	9	..
	Urban	151	..	5	.	86	..	60	..
Rural—88		17	..	..	.	8	..	9	..
Urban—35		151	..	5	.	86	..	60	..
Division 4—Processing and Manufacture- Not elsewhere specified	Total	6,032	142	151	4	1,818	72	4,060	66
	Rural	5,178	105	117	4	1,538	55	3,523	46
	Urban	854	37	37	.	280	17	537	20
Rural—87		444	64	1	1	10	42	433	21
Rural—88		746	22	..	1	358	4	388	17
Rural—89		813	6	2	1	212	..	599	5
Rural—90		334	..	..	.	71	..	263	..
Rural—91		2,841	13	114	1	887	9	1,840	3
Urban—35		854	37	37	.	280	17	537	20
4.0—Manufacturing Industries otherwise unclassified	Total	809	3	52	1	148	..	609	2
	Rural	654	1	50	1	106	..	498	..
	Urban	155	2	2	.	42	..	111	2
Rural—87		28	..	..	.	..	..	28	..
Rural—88		92	1	..	1	13	..	79	..
Rural—89		87	..	..	.	6	..	81	..
Rural—90		55	..	..	.	..	..	55	..
Rural—91		392	..	50	.	87	..	255	..
Urban—35		155	2	2	..	42	..	111	2
4.1—Products of Petroleum and Coal	Total	1	3	..	..	1	3	..	..
	Rural	1	3	..	.	1	3	..	..
	Urban								
Rural—88									
Rural—91									
4.2—Bricks, tiles and other structural clay products—Structural clay products such as bricks, tiles, etc.	Total	917	45	22		545	43	350	2
	Rural	809	45	11		489	43	309	2
	Urban	108	..	11		56	..	41	..
Rural—87		204	42	..		1	42	203	..
Rural—88		75	2	..		75	..	..	2
Rural—89		52	..	..		19	..	33	..
Rural—90		66	..	..		2	..	64	..
Rural—91		412	1	11		392	1	9	..
Urban—35		108	..	11		56	..	41	..

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries	Persons following the occupation as							
	Total		Employers		Employees		Independent workers	
	Males	Females	Males	Females	Males	Females	Males	Females
	2	3	4	5	6	7	8	9
1.4 - Non metallic mineral products { Total	131						127	7
Rural	131						127	7
Urban							..	..
Rural - 87	15						15	6
Rural - 88	37						37	1
Rural - 89	73						72	..
Rural - 90								
Rural - 91								
4.5 - Rubber products { Total								
Rural								
Urban								
Urban - 35								
4.6 - Wood and wood products { Total	4,647	67	71	3	1,014	11	2,932	53
other than furniture and fixtures { Rural	3,555	46	55	3	937	6	2,563	37
Urban	492	21	16	..	107	5	369	16
Rural - 87	197	16	1	1	9	..	187	15
Rural - 88	517	15	..	..	269	1	248	11
Rural - 89	691	6	1	1	187	..	413	5
Rural - 90	211	..	..	..	67	..	144	..
Rural - 91	2,029	9	53	1	495	5	1,571	3
Urban - 35	492	21	16	..	107	5	369	16
4.7- Furniture and fixtures - Manu { Total	29	5	..	..	1	3	28	2
facture of household, office, public { Rural	24	3	..	..	..	3	24	..
building, professional and res { Urban	5	2	..	..	1	..	4	2
taurant furniture, office and store fixtures, screens, shades, etc., regardless of material used								
Rural - 88	24	3	..	..	..	3	24	..
Urban - 35	5	2	..	..	1	..	4	2
4.9-- Printing and Allied Industries { Total	96	12	7	..	76	12	13	..
Rural	4	..	..	..	2	..	2	..
Urban	92	12	7	..	74	12	11	..
Rural - 91	4	..	..	..	2	..	2	..
Urban - 35	92	12	7	..	74	12	11	..
Division 5--Construction and Utilities { Total	5,255	117	665	3	2,643	98	1,947	16
Rural	4,824	35	662	..	2,352	22	1,710	13
Urban	431	82	3	3	191	76	237	3
Rural - 87	447	4	5	..	109	..	333	4
Rural - 88	685	4	4	..	388	4	293	..
Rural - 89	658	3	..	..	340	1	318	2
Rural - 90	187	11	..	..	35	4	152	7
Rural - 91	2,847	13	653	..	1,580	13	614	..
Urban - 35	431	82	3	3	191	76	237	3

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract		Persons following the occupation as							
		Total		Employers		Employees		Independent workers	
		Males	Females	Males	Females	Males	Females	Males	Females
1		2	3	4	5	6	7	8	9
5.0 Construction and maintenance of works—otherwise unclassified	{ Total .	419	85	5	3	19	79	395	3
	{ Rural .	419	4	5		19	4	395	.
	{ Urban .	.	81	..	3		75	.	3
	Rural—87	261		.	.			261	..
	Rural—88	51	4			7	4	14	..
	Rural—90	69	.		.		.	69	..
	Rural—91	38		5		12		21	.
	Urban—35 . . . . .	..	81	..	3	..	75	.	3
5.1—Construction and maintenance — Buildings	{ Total .	4,163	3	654	.	2,206	.	1,303	3
	{ Rural .	3,858	3	651		2,126		1,081	3
	{ Urban .	305		3	..	80	..	222	..
	Rural—87	50	3		.	18	..	32	3
	Rural—88	319	..	3	.	260		56	..
	Rural—89	596			.	279	.	317	..
	Rural—90	92				9		83	..
	Rural—91	2,801		648		1,560	.	593	..
	Urban—35	305		3	.	80		222	..
5.2—Construction and maintenance Roads, Bridges, and other Trans- port works	{ Total .	428	3	4	.	187	1	237	2
	{ Rural .	413	2	4		178		231	2
	{ Urban .	15	1	.	.	9	1	6	..
	Rural—87	134		3	..	91	.	40	..
	Rural—88	241		1		49	..	191	.
	Rural—89	28	2	..	..	28		..	2
	Rural—90	10	.		.	10	..	..	..
	Urban—35	15	1	..	..	9	1	6	..
5.3—Construction and maintenance — Telegraph and Telephone Lines	{ Total .	1		..	..	1	..	.	..
	{ Rural .	1	..	..	..	1	.	..	..
	{ Urban .	..	.			.	.	..	..
	Rural—88	1	..	..	..	1	..	..	..
5.4—Construction and maintenance operations— Irrigation and other agricultural works	{ Total .	103	..	..	..	103	..	..	..
	{ Rural .	49	..	..	..	49	.	..	..
	{ Urban .	54	..	..	..	54	.	..	..
	Rural—88	49	..	..	..	49	..	..	..
	Urban—35	54	..	..	..	54	..	..	..
5.5—Works and Services— Electric Power and Gas supply	{ Total .	82	..	2	..	70	..	10	..
	{ Rural .	25	..	2	..	22	..	1	..
	{ Urban .	57	..	..	..	48	..	9	..
	Rural—87	2	..	2	..	..	..	..	..
	Rural—88	9	..	..	..	9	..	..	..
	Rural—89	6	..	..	..	5	..	1	..
	Rural—91	8	..	..	..	8	..	..	..
	Urban—35	57	..	..	..	48	..	9	..

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract			Persons following the occupation as							
			Total		Employers		Employees		Independent workers	
			Males	Females	Males	Females	Males	Females	Males	Females
			2	3	4	5	6	7	8	9
5.6 - Work and Services - Domestic and Industrial water supply	{ Total Rural Urban		35	..	..	..	35	..	..	..
			35	..	..	..	35	..	..	..
		
	Rural 88		2							
	Rural 89		17				17			
	Rural 90		16				16			
5.7 - Sanitary Works and Service Including scavengers	{ Total Rural Urban		24	26			22	18	2	8
			24	26	..	..	22	18	2	8
						
	Rural 87			1						1
	Rural 88		13				11		2	
	Rural 89		11	1			11	1		
	Rural 90			11				4		7
	Rural 91			13				13		
Division 6 - Commerce	{ Total Rural Urban		16,179	828	605	20	3,000	142	12,574	666
			9,983	500	369	14	1,623	58	7,994	503
			6,196	253	236	6	1,377	84	4,583	163
	Rural 87		791	94	14		26	14	757	80
	Rural 88		2,465	163	58		465	2	1,942	161
	Rural 89		2,553	125	174		456	1	1,923	124
	Rural 90		1,200	80	9	2	74	11	1,117	67
	Rural 91		2,974	113	114	12	608	30	2,252	71
	Urban 35		6,196	253	236	6	1,377	84	4,583	163
	{ Total Rural Urban		5,695	281	202	12	1,138	49	4,355	220
			3,752	148	121	10	659	34	2,972	104
			1,943	133	81	2	479	15	1,383	116
	Rural 87		211	29	9		8	14	194	15
	Rural 88		643	22	6		182		455	22
	Rural 89		1,160	20	52		201	1	907	19
	Rural 90		396	26	8		7		381	26
	Rural 91		1,342	51	46	10	261	19	1,035	22
	Urban 35		1,943	133	81	2	479	15	1,383	116
6.0 - Retail trade otherwise un- classified	{ Total Rural Urban		5,695	281	202	12	1,138	49	4,355	220
			3,752	148	121	10	659	34	2,972	104
			1,943	133	81	2	479	15	1,383	116
	Rural 87		211	29	9		8	14	194	15
	Rural 88		643	22	6		182		455	22
	Rural 89		1,160	20	52		201	1	907	19
	Rural 90		396	26	8		7		381	26
	Rural 91		1,342	51	46	10	261	19	1,035	22
	Urban 35		1,943	133	81	2	479	15	1,383	116
	{ Total Rural Urban		6,513	405	180	5	868	26	5,465	374
			4,066	376	108	4	556	24	3,402	348
			2,447	29	72	1	312	2	2,063	26
6.1 - Retail trade in foodstuffs (in- cluding beverages and narcotics)	{ Total Rural Urban		6,513	405	180	5	868	26	5,465	374
			4,066	376	108	4	556	24	3,402	348
			2,447	29	72	1	312	2	2,063	26
	Rural 87		399	57	5		11		383	57
	Rural 88		1,093	119	13		148	2	932	117
	Rural 89		966	100	70		143		753	100
	Rural 90		565	42		2	50	11	515	29
	Rural 91		1,043	58	20	2	204	11	819	45
	Urban 35		2,447	29	72	1	312	2	2,063	26
	{ Total Rural Urban		517	3	23		180		314	3
			432	..	22		157		253	..
			85	3	1		23		61	3
6.2 - Retail trade in fuel (including petrol)	{ Total Rural Urban		517	3	23		180		314	3
			432	..	22		157		253	..
			85	3	1		23		61	3
	Rural 87		5						5	
	Rural 88		133		5		46		82	
	Rural 89		128		14		62		52	
	Rural 90		19		1		1		17	
	Rural 91		147		2		48		97	
	Urban 35		85				23		61	

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract	Persons following the occupation as							
	Total		Employers		Employees		Independent workers	
	Male	Females	Male	Females	Male	Females	Male	Females
1	2	3	4	5	6	7	8	9
6.3 - Retail trade in textile and leather goods - Retail trade (including hawkers and street-vendors) in piece goods, wool, cotton, silk, hair, wearing apparel, made-up textile goods, skin, leather, furs, feathers, etc	{ Total	1 325	37	84	1	194	1,047	36
	{ Rural	941	27	73	87	781	27	
	{ Urban	384	10	11	107	266	9	
Rural—87		124	5		1	123	5	
Rural—88		253	5	11	22	220	5	
Rural—89		269	3	35	40	194	3	
Rural—90		46	11			46	11	
Rural—91		249	3	27	24	198	3	
Urban—35		384	10	11	107	266	9	
6.4 - Wholesale trade in food-stuffs - Wholesale dealers in grains and pulses, sweetmeats, sugar and spices, dairy products, eggs and poultry, animals for food, fodder for animals, other food-stuffs, wholesale dealers in tobacco, opium and ganja	{ Total	143	3	8	17	118	3	
	{ Rural	83	2	3	7	73	2	
	{ Urban	60	1	5	10	45	1	
Rural—87		14				14		
Rural—88		10	1	3	1	6	1	
Rural—90		42			5	37		
Rural—91		17	1		1	16	1	
Urban—35		60	1	5	10	45	1	
6.5 - Wholesale trade in commodities other than food-stuffs	{ Total	1,398	30	87	2	304	5	1,007
	{ Rural	642	20	39	141	462	20	
	{ Urban	756	10	48	2	163	5	545
Rural—87		24	3			24	3	
Rural—88		329	16	20	66	243	16	
Rural—89		7	1			7	1	
Rural—90		116			10	106		
Rural—91		166		19	65	82		
Urban—35		756	10	48	2	163	5	545
6.6 - Real Estate—House and estate agents and rent collectors except agricultural land	{ Total	32	11		4	4	28	7
	{ Rural	1	2				1	2
	{ Urban	31	9		4	4	27	5
Rural—88		1					1	
Rural—89			1					1
Rural—90			1					1
Urban—35		31	9		4	4	27	5
6.7—Insurance—Insurance carriers and all kinds of insurance agents and other persons connected with insurance business	{ Total	149	31	7		95	31	47
	{ Rural	6				1		5
	{ Urban	143	31	7		94	31	42
Rural—89		5					5	
Rural—90		1				1		
Urban—35		143	31	7		94	31	42

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract			Persons following the occupation as								
			Total		Employers		Employees		Independent workers		
			Males	Females	Males	Females	Males	Females	Males	Females	
1			3		5		7		8		9
6.8 Moneylending, banking and other financial business, officers, employees of joint stock banks and co-operative banks, Munim, agents or employees of indigenous banking firms, individual money lenders, exchangers and exchange agents, money changers and bro- kers and their agents.	Total		407	27	14		200	27	193		
	Rural		60		3		15		42		
	Urban		347	27	11		185	27	151		
	Rural 87		14						14		
	Rural 88		3						3		
Rural 89		18		3		10		5			
Rural 90		15						15			
Rural 91		10				5		5			
Urban 35		347	27	11		185	27	151			
Division 7 Transport, Storage and Communications.	Total		8,043	158	42	1	6,543	113	1,458	44	
	Rural		5,104	91	31	1	4,679	84	394	6	
	Urban		2,939	67	11		1,864	29	1,064	38	
	Rural 87		313	5	2		242	5	69		
	Rural 88		1,297	31	8		1,220	31	69		
Rural 89		1,423	8			1,378	5	45	3		
Rural 90		468	12			391	12	77			
Rural 91		1,603	35	21	1	1,448	31	134	3		
Urban 35		2,939	67	11		1,864	29	1,064	38		
7.0 Transport and Communications otherwise unclassified and inci- dental services	Total		519	36	3		60	2	456	34	
	Rural		28	2	3		20	2	5		
	Urban		491	34			40		451	34	
	Rural 88		8	2			5	2	3		
	Rural 91		20		3		15		2		
Urban 35		491	34			40		451	34		
7.1 Transport by Road Owners, managers and employees connect- ed with mechanically driven and other vehicles (excluding domestic servant) paliki, etc., bearers and owners pack elephant, camel, mule, ass and bullock owners and drivers, porters and messengers, persons engaged in road transport not otherwise classified, including freight transport by road, the operation of fixed facilities for road transport such as toll roads, highway bridges, terminals and parking facilities	Total		3,323	45	37	1	2,363	34	923	10	
	Rural		2,365	30	26	1	2,025	23	314	6	
	Urban		958	15	11		338	11	609	4	
	Rural 87		127	4	2		64	4	61		
	Rural 88		304	2	8		249	2	47		
Rural 89		732	4			689	1	43	3		
Rural 90		220				159		61			
Rural 91		982	20	16		864	16	102	3		
Urban 35		958	15	11		338	11	609			

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract	1	Persons following the occupation as							
		Total		Employers		Employees		Independent workers	
		Males	Females	Males	Females	Males	Females	Males	Females
		2	3	4	5	6	7	8	9
7.2 Transport by water—Owners and employees, officers, mariners, etc., of ships plying on the high seas, ships and boats plying on inland and coastal waters, persons employed in harbours, docks, rivers and canals, including pilots, ship brokers	{ Total	115	1	2		52	1	61	..
	{ Rural	98	1	2		38	1	58	..
	{ Urban	17				14		3	..
	Rural—87	9				1		8	..
	Rural—88	25				21		4	..
Rural—89		1	1			1	1		..
	Rural—90	16						16	..
	Rural—91	47		2		15		30	..
	Urban—35	17				14		3	..
7.3 Transport by Air—Persons concerned with airfields and air- craft other than construction of airfields and airports	{ Total	21				3		18	..
	{ Rural	17						17	..
	{ Urban	4				3		1	..
	Rural—88	15						15	..
	Rural—89	2						2	..
Urban—35		4				3		1	..
7.4 Railway transport—Railway employees of all kinds, except those employed on construction works	{ Total	3,703	76			3,703	76	..	..
	{ Rural	2,431	58			2,431	58	..	..
	{ Urban	1,272	18			1,272	18	..	..
	Rural—87	158	1			158	1	..	..
	Rural—88	900	27			900	27	..	..
Rural—89		636				636	3	..	..
	Rural—90	218	12			218	12	..	..
	Rural—91	519	15			519	15	..	..
	Urban—35	1,272	18			1,272	18	..	..
7.6 Postal Services	{ Total	302				302		..	..
	{ Rural	152				152		..	..
	{ Urban	150				150		..	..
	Rural—87	19				19		..	..
	Rural—88	37				37		..	..
Rural—89		47				47		..	..
	Rural—90	14				14		..	..
	Rural—91	35				35		..	..
	Urban—35	150				150		..	..
7.7—Telegraph Services	{ Total	38				38		..	..
	{ Rural	10				10		..	..
	{ Urban	28				28		..	..
	Rural—88	5				5		..	..
	Rural—89	5				5		..	..
Urban—35		28				28		..	..

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract			Persons following the occupation as							
			Total		Employers		Employees		Independent workers	
					Males	Females	Males	Females	Males	Females
			Males	Females						
1		2	3	4	5	6	7	8	9	
8 Telephone Services	{ Total	14				14				
	{ Rural									
	{ Urban	14				14				
Urban - 35		14				14				
9 Wireless Services	{ Total	8				8				
	{ Rural	3				3				
	{ Urban	5				5				
Rural - 88		3				3				
Urban - 35		5				5				
Division 8 Health, Education and Public Administration	{ Total	7,747	443	402	4	6,557	360	788	79	
	{ Rural	5,643	204	102	4	4,605	156	636	14	
	{ Urban	2,104	239			1,952	204	152	35	
Rural - 87		1,814	26	114	4	1,643	8	57	14	
Rural - 88		775	36	19		679	30	77	6	
Rural - 89		491	41			456	30	35	11	
Rural - 90		441	9			248	2	193	7	
Rural - 91		2,122	92	269		1,579	86	274	6	
Urban - 35		2,104	239			1,952	204	152	35	
11 Medical and other Health Ser- vices	{ Total	1,671	230	209	2	1,020	171	442	57	
	{ Rural	1,236	162	209	2	720	122	307	38	
	{ Urban	435	68			300	49	135	19	
Rural - 87		89	14	13	2	20		56	12	
Rural - 88		193	24	19		123	19	51	5	
Rural - 89		117	36			82	25	35	11	
Rural - 90		73	6			1		72	6	
Rural - 91		764	82	177		494	78	93	4	
Urban - 35		435	68			300	49	135	19	
12 Educational Services and Research	{ Total	1,934	96	193	2	1,395	72	346	22	
	{ Rural	1,671	27	193	2	1,149	19	329	6	
	{ Urban	263	69			246	53	17	16	
Rural - 87		158	5	101	2	56	1	1	2	
Rural - 88		268	11			242	10	26	1	
Rural - 89		146	4			146	4			
Rural - 90		188	1			67		121	1	
Rural - 91		911	6	92		638	4	181	2	
Urban - 35		263	69			246	53	17	16	
14 Police (Other than village watchmen)	{ Total	908	4			908	4			
	{ Rural	459	3			459	3			
	{ Urban	449	1			449	1			
Rural - 87		105	1			105	1			
Rural - 88		70				70				
Rural - 89		10				10				
Rural - 90		20				20				
Rural - 91		254	2			254	2			
Urban - 35		449	1			449	1			

TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS AND SUBDIVISIONS—contd.

Division and Subdivision of Industries and Services and Tract			Persons following the occupation as							
			Total		Employers		Employees		Independent workers	
			Males	Females	Males	Females	Males	Females	Males	Females
1		2	3	4	5	6	7	8	9	
8.5—Village officers and servants, including village watchmen	{ Total	549	9	.	.	549	9	.	..	
	{ Rural	512	3	.	.	512	3	.	..	
	{ Urban	37	6	.	..	37	6	.	..	
Rural—87	.	54	.	.	.	54	.	..	..
Rural—88	.	100	.	..	.	100	.	.	..
Rural—89	.	127	1	.	.	127	1	.	..	
Rural—90	.	54	.	.	.	54	.	.	..
Rural—91	.	177	2	.	.	177	2	.	..	
Urban—35	.	37	6	..	.	37	6	..	.	
8.6—Employees of Municipalities and Local Boards (but not including persons classifiable under any other division or subdivision)	{ Total	340	95	.	.	340	95	.	..	
	{ Rural	108	3	.	.	108	3	.	..	
	{ Urban	232	92	.	.	232	92	.	..	
Rural—87	.	15	3	.	.	15	3	.	..	
Rural—88	.	33	.	.	.	33	.	.	..
Rural—89	.	12	.	.	.	12	.	.	..
Rural—90	.	48	.	.	.	48	.	.	..
Urban—35	.	232	92	.	.	232	92	.	..	
8.7—Employees of State Governments (but not including persons classifiable under any other division or subdivision)	{ Total	929	6	.	.	929	6	.	..	
	{ Rural	301	3	.	.	301	3	.	..	
	{ Urban	628	3	.	.	628	3	.	..	
Rural—87	.	128	..	.	.	128	..	.	..
Rural—88	.	92	1	..	.	92	1	.	..	
Rural—89	.	56	.	.	.	56	.	.	..
Rural—90	.	9	2	.	.	9	2	.	..	
Rural—91	.	16	.	.	.	16	.	.	..
Urban—35	.	628	3	.	.	628	3	..	..
8.8—Employees of the Union Government (including persons classifiable under subdivision 8.3 but not including persons classifiable under any other division or subdivision)	{ Total	1,305	..	.	.	1,305	..	.	..
	{ Rural	1,245	..	.	.	1,245	..	.	..
	{ Urban	60	..	..	..	60	..	..	..
Rural—87	.	1,171	..	.	.	1,171	..	..	..
Rural—88	.	7	..	..	..	7	..	..	..
Rural—89	.	22	..	..	..	22	..	..	..
Rural—90	.	45	..	..	..	45	..	..	..
Urban—35	.	60	..	..	..	60	..	..	..
8.9—Employees of Non Indian Governments	{ Total	111	3	..	..	111	3	..	..
	{ Rural	111	3	..	..	111	3	..	..
	{ Urban	..	..	..	..	..	..	..	..
Rural—87	.	94	3	..	..	94	3	..	..
Rural—88	.	12	..	..	..	12	..	..	..
Rural—89	.	1	..	..	..	1	..	..	..
Rural—90	.	4	..	..	..	4	..	..	..

**TABLE 1.11—ECONOMIC TABLE III.—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industries and Services and Tract		Persons following the occupation as							
		Total		Employers		Employees		Independent workers	
		Males	Females	Males	Females	Males	Females	Males	Females
		2	3	4	5	6	7	8	9
Division 9 - Services not elsewhere specified	{ Total	17,249	1,732	468	13	10,677	968	6,124	751
	{ Rural	11,900	1,131	400	11	7,531	717	3,969	403
	{ Urban	5,349	601	68	2	3,126	251	2,155	348
	Rural - 87	1,313	64	262	10	864	45	187	9
	Rural - 88	3,424	103	13		2,148	83	1,263	20
	Rural - 89	3,522	336	2		3,108	135	412	201
	Rural - 90	2,409	228			526	94	1,883	134
	Rural - 91	1,232	400	123	1	885	360	224	39
	Urban - 35	5,349	601	68	2	3,126	251	2,155	348
9.0 - Services otherwise unclassified	{ Total	8,927	740	200	7	5,350	275	3,377	458
	{ Rural	6,313	605	163	7	4,128	245	2,022	353
	{ Urban	2,614	135	37		1,222	30	1,355	105
	Rural - 87	371	15	121	7	190	8	60	
	Rural - 88	2,003	40	8		1,115	20	880	11
	Rural - 89	2,653	217			2,514	18	139	199
	Rural - 90	889	135			53	6	836	129
	Rural - 91	397	198	34		256	184	107	14
	Urban - 35	2,614	135	37		1,222	30	1,355	105
9.1 - Domestic services (but not including services rendered by members of family households to one another)	{ Total	5,493	633	175	6	4,336	599	982	28
	{ Rural	3,799	469	175	4	2,732	452	892	13
	{ Urban	1,694	164		2	1,604	147	90	15
	Rural - 87	797	48	128	3	662	37	7	8
	Rural - 88	916	52			877	47	39	5
	Rural - 89	390	114			390	114		
	Rural - 90	1,208	88			376	88	832	
	Rural - 91	488	167	47	1	427	166	14	
	Urban - 35	1,694	164		2	1,604	147	90	15
9.2 - Barbers and beauty shops Barbers, hair dressers and wig makers, tattooers, shampooers, bath houses	{ Total	786	3			185		601	3
	{ Rural	622	3			180		442	3
	{ Urban	164				5		159	
	Rural - 87	46						46	
	Rural - 88	150	2			15		135	2
	Rural - 89	196	1			46		150	1
	Rural - 90	125				84		41	
	Rural - 91	105				35		70	
	Urban - 35	164				5		159	
9.3 - Laundries and Laundry Ser- vices—Laundries and laundry services, washing and cleaning	{ Total	321	23	2		116	3	203	20
	{ Rural	178	8			101	3	77	5
	{ Urban	143	15	2		15		126	15
	Rural - 87	7						7	
	Rural - 88	48				20		28	
	Rural - 89	102	3			68	3	34	
	Rural - 90	14				13		1	
	Rural - 91	7	5					7	5
	Urban - 35	143	15	2		15		126	15

**TABLE 1.11—ECONOMIC TABLE III—EMPLOYERS, EMPLOYEES AND
INDEPENDENT WORKERS IN INDUSTRIES AND SERVICES BY DIVISIONS
AND SUBDIVISIONS—contd.**

Division and Subdivision of Industry and Services and Tract				Persons following the occupation as							
				Total		Employers		Employees		Independent workers	
				Males	Females	Males	Females	Males	Females	Males	Females
1				2	3	4	5	6	7	8	9
9.4 Hotels, restaurants and eating houses	{ Total .			257	1	30	..	172	..	55	1
	{ Rural .			121	1	11	..	84	..	26	1
	{ Urban .			136	..	19	..	88	..	29	..
	Rural-88	..	..	18	..	1	..	17	..	..	..
	Rural-89	..	..	10	1	..	..	4	..	6	1
	Rural-90	..	..	4	..	..	..	..	..	1	..
	Rural-91	..	..	89	..	10	..	63	..	16	..
	Urban-35	..	..	136	..	19	..	88	..	29	..
9.5 Recreation Services, Produc- tion and distribution of motion pictures and the operation of cinemas and allied services, mana- gers and employees of theatres, opera companies, etc., musicians, actors, dancers, etc., conjurers, acrobats, reciters, exhibitors of curiosities and wild animals, radio broadcasting studios	{ Total .			392	308	12	..	193	81	187	227
	{ Rural .			232	27	9	..	95	7	128	20
	{ Urban .			160	281	3	..	98	74	59	207
	Rural-87	..	..	20	..	8	..	..	..	12	..
	Rural-88	..	..	126	9	1	..	60	7	65	2
	Rural-89	..	..	72	..	..	..	35	..	37	..
	Rural-90	..	..	8	..	..	..	..	..	8	..
	Rural-91	..	..	6	18	..	..	..	..	6	18
	Urban-35	..	..	160	281	3	..	98	74	59	207
	{ Total .			488	7	41	..	238	5	206	2
	{ Rural .			220	5	37	..	119	5	34	..
	{ Urban .			268	2	7	..	89	..	172	2
	Rural-87	..	..	17	..	5	..	12	..	..	..
	Rural-88	..	..	16	..	..	..	14	..	2	..
	Rural-89	..	..	22	..	..	..	19	..	3	..
	Rural-90	..	..	29	..	..	..	..	..	29	..
	Rural-91	..	..	136	5	32	..	104	5	..	..
	Urban-35	..	..	268	2	7	..	89	..	172	2
9.6 Legal and business services	{ Total .			488	7	41	..	238	5	206	2
	{ Rural .			220	5	37	..	119	5	34	..
	{ Urban .			268	2	7	..	89	..	172	2
	Rural-87	..	..	17	..	5	..	12	..	..	..
	Rural-88	..	..	16	..	..	..	14	..	2	..
	Rural-89	..	..	22	..	..	..	19	..	3	..
	Rural-90	..	..	29	..	..	..	..	..	29	..
	Rural-91	..	..	136	5	32	..	104	5	..	..
9.7 Arts, letters and journalism	{ Total .			77	3	..	..	..	1	77	2
	{ Rural .			28	3	..	..	..	1	28	2
	{ Urban .			49	..	..	..	..	..	49	..
	Rural-88	..	..	4	..	..	..	..	..	4	..
	Rural-90	..	..	24	..	..	..	..	..	24	..
	Rural-91	..	..	..	3	..	..	..	1	..	2
	Urban-35	..	..	49	..	..	..	..	..	49	..
	Urban-35	..	..	49	..	..	..	..	..	49	..
9.8 Religious, Charitable and Wel- fare Services	{ Total .			508	14	5	..	67	4	436	10
	{ Rural .			387	10	5	..	62	4	320	6
	{ Urban .			121	4	..	..	5	..	116	4
	Rural-87	..	..	55	1	..	..	..	..	55	1
	Rural-88	..	..	143	..	3	..	30	..	110	..
	Rural-89	..	..	77	..	2	..	32	..	43	..
	Rural-90	..	..	108	5	..	..	..	..	108	5
	Rural-91	..	..	4	4	..	..	..	4	4	..
	Urban-35	..	..	121	4	..	..	5	..	116	4
	Urban-35	..	..	121	4	..	..	5	..	116	4
	Urban-35	..	..	121	4	..	..	5	..	116	4

TABLE 1.11—ECONOMIC TABLE III.—concl'd.

Abstract of persons subsisting on non-productive activity

District and Tract	Unclassifiable												
	Total			Persons living principally on income from non-agricultural property		Persons living principally on pension, remittances, scholarship, and fund.		Inmates of jails, asylums, almshouses, and recipients of doles		Beggars and Vagrants		All other persons living principally on income derived from non-productive activity	
	Persons	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ALPAIGURI DISTRICT													
TOTAL POPULATION													
Total	1,549	1,182	367		4	57	36		..	1,125	327	..	..
Rural	814	476	338		4	57	36		..	419	298	..	..
Urban	735	706	29							706	29	..	..
Rural—87	176	115	61	..	4	4	11		..	111	46	..	..
Rural—88	389	236	153			8	6	..		228	147	..	..
Rural—89	149	110	39			45	18			65	21	..	..
Rural—90	47	15	32	..	..	..	..	..	..	15	32	..	..
Rural—91	53	..	53	..	..	..	1	..	..	..	52	..	..
Urban—35	735	706	29	..	..	..	..	..	..	706	29	..	..
DISPLACED POPULATION													
Total	798	705	93	..	..	..	4	..	..	705	89	..	..
Rural	160	96	64	..	..	..	4	..	..	96	60	..	..
Urban	638	609	29	..	..	..	..	..	..	609	29	..	..
Rural—87	72	56	16	..	..	..	4	..	..	56	12	..	..
Rural—88	42	19	23	..	..	..	..	..	..	19	23	..	..
Rural—89	6	6	..	..	..	..	..	..	..	6	..	..	..
Rural—90	37	15	22	..	..	..	..	..	..	15	22	..	..
Rural—91	3	..	3	..	..	..	..	..	..	..	3	..	..
Urban—37	638	609	29	..	..	..	..	..	..	609	29	..	..

TABLE 1.12—LIVELIHOOD DIVISIONS, SUBDIVISIONS AND GROUPS

(Relates to Self-supporting Persons Only)

JALPAIGURI DISTRICT	I.C.E.C. Group No.	Total	1951		
			Males	Females	
LIVELIHOOD CLASS V					
(Production other than cultivation)		193,850	114,257	79,593	
DIVISION 0—PRIMARY INDUSTRIES NOT ELSEWHERE SPECIFIED		181,282	103,011	78,211	
STOCK RAISING		0 1	697	679	18
Herdsmen and shepherds		0 11	284	272	12
Breeders and keepers of cattle and buffaloes		0 12	410	404	6
Breeders and keepers of other large animals including transport animals		0 10	3	3	..
REARING OF SMALL ANIMALS AND INSECTS		0 2	5	5	..
Poultry farmers		0 21	..	..	..
Beekeepers		0 22	..	..	..
Silkworm rearers		0 23	2	2	..
Cultivators of Lac		0 24	3	3	..
Rearers of other small animals and insects		0 20	..	..	..
PLANTATION INDUSTRIES		0 3	178,066	99,890	78,176
Owners, managers and workers in—					
Tea plantation		0 31	178,009	99,835	78,174
Coffee plantation		0 32	..	..	..
Rubber plantation		0 33	..	..	..
All other plantations but not including the cultivation of special crops in conjunction with ordinary cultivation of field crops			57	..	..
FORESTRY AND COLLECTION OF PRODUCTS NOT ELSEWHERE SPECIFIED		0 4	1,959	1,915	44
Planting, replanting and conservation of forests (including forest officers, rangers and guards)		0 40	1,263	1,227	36
Charcoal burners		0 41	8	8	..
Collectors of forest produce and lac		0 42	3	3	..
Woodcutters		0 43	685	677	8
Cowdung cake makers and collectors of cowdung		0 44	..	..	..
HUNTING (including trapping and Cane Propagation)		0 5	..	..	..
FISHING		0 6	555	552	3
Fishing in sea and inland waters including the operation of fish farms and fish hatcheries		0 60	535	532	3
Gatherers of clams and pearls		0 61	..	..	..
Gatherers of sea weeds, sea shells, sponges and other water products		0 62	20	20	..
DIVISION 1—MINING AND QUARRYING			212	210	2
NON-METALLIC MINING AND QUARRYING NOT OTHERWISE CLASSIFIED— including mining and quarrying of such materials as precious and semi-precious stone, asbestos, gypsum, sulphur, asphalt, bitumen					
COAL MINING— Mines primarily engaged in the extraction of anthracite and of soft coals such as bituminous, sub-bituminous and lignite		1 1	34	33	1
IRON ORE MINING		1 2	76	75	1
METAL MINING EXCEPT IRON ORE MINING		1 3	85	85	..
Gold		1 31	29	29	..
Lead, silver and zinc		1 32	22	22	..
Manganese		1 33	..	..	..
Tin and wolfram		1 34	3	3	..
Other metallic minerals		1 30	31	31	..
CRUDE PETROLEUM AND NATURAL GAS— Oil Well and Natural Gas, well operations (including drilling) and oil or bituminous sand operations		1 4	..	..	..
STONE-QUARRYING, CLAY AND SAND PITS— Extraction from the earth of stone, clay, sand and other materials used in building or manufacture of cement		1 5	17	17	..
MICA		1 6	..	..	..
SALT, SALTPETRE AND SALINE SUBSTANCES		1 7	..	..	..

TABLE 1.12—LIVELIHOOD DIVISIONS, SUBDIVISIONS AND GROUPS—contd.

	I C F C. Group No	Total	1951	
			Males	Females
LIVELIHOOD CLASS V—contd				
DIVISION 2—PROCESSING AND MANUFACTURE—FOODSTUFFS, TEXTILES, LEATHER AND PRODUCTS THEREOF		4,267	3,069	1,198
FOOD INDUSTRIES OTHERWISE UNCLASSIFIED	2.0	153	142	11
Canning and preservation of fruits and vegetables	2.01	16	14	2
Canning and preservation of fish	2.02	1	1	..
Slaughter, preparation and preservation of meat	2.03	3	3	..
Other food industries	2.00	133	124	9
GRAINS AND PULSES	2.1	1,503	405	1,098
Hand pounders of rice and other persons engaged in manual dehusking and flour grinding	2.11	1,245	176	1,069
Millers of cereals and pulses	2.12	194	193	1
Grains parchers and makers of blended and prepared flour and other cereal and pulse preparations	2.13	64	36	28
Other processes of grains and pulses	2.10	..	..	..
VEGETABLE OIL AND DAIRY PRODUCTS	2.2	181	171	10
Vegetable oil pressers and refiners	2.21	22	19	3
Manufacturers of hydrogenated oils	2.22	..	..	..
Makers of butter, cheese, ghee and other dairy products	2.23	159	152	7
SUGAR INDUSTRIES	2.3	6	5	1
Gur manufacture	2.31	6	5	1
Other manufactures and refining of raw sugar, syrup and granulated or clarified sugar from sugarcane or from sugar beets	2.30	..	..	..
BEVERAGES	2.4	4	4	..
Brewers and distillers	2.41	..	..	..
Toddy drawers	2.42	..	..	..
Ice manufacturers	2.43	1	1	..
Manufacture of aerated and mineral waters and other beverages	2.40	3	3	..
TOBACCO	2.5	276	261	15
Manufacture of bids	2.51	259	244	15
Manufacture of tobacco products (other than bids) such as cigarettes, cigars, cheroots and snuff—stemming, redrying and other operations connected with preparing raw leaf tobacco for manufacturing are also included	2.50	17	17	..
COTTON TEXTILES	2.6	310	278	32
Cotton ginning, cleaning and pressing	2.61	25	20	5
Cotton spinning, sizing and weaving	2.62	276	249	27
Cotton dyeing, bleaching, printing, preparation and sponging	2.63	9	9	..
WEARING APPAREL (EXCEPT FOOTWEAR) AND MADE-UP TEXTILE GOODS	2.7	1,311	1,286	25
Tailors, milliners, dress makers and darners	2.71	1,298	1,273	25
Manufacturers of hosiery, embroiderers, makers of crepe, lace and fringes	2.72	2	2	..
Fur dressers and dyers	2.73	..	..	..
Hat makers and makers of other articles of wear from textiles	2.74	..	..	..
Manufacture of house furnishings of textiles	2.75	10	10	..
Tent makers	2.76	..	..	..
Makers of other made-up textile goods, including umbrellas	2.70	1	1	..
TEXTILE INDUSTRIES OTHERWISE UNCLASSIFIED	2.8	64	64	..
Jute pressing, baling, spinning and weaving	2.81	34	34	..
Woollen spinning, twisting and weaving	2.82	21	21	..
Silk reeling, spinning and weaving	2.83	..	..	..
Hemp and flax, spinning and weaving	2.84	..	..	..
Manufacture of rayon, weaving of rayon fabrics and production of staple fabric yarn	2.85	..	..	..
Manufacture of rope, twine, string and other related goods from coconut, aloes, straw, linseed and hair	2.86	9	9	..
All other (including insufficiently described) textile industries, including artificial leather and cloth	2.80	..	..	..
LEATHER, LEATHER PRODUCTS AND FOOTWEAR	2.9	459	453	6
Tanners and all other workers in leather	2.91	62	59	3
Cobblers and all other makers and repairers of boots, shoes, sandals and clogs	2.92	396	393	3
Makers and repairers of all other products	2.90	1	1	..

TABLE 1.12—LIVELIHOOD DIVISIONS, SUBDIVISIONS AND GROUPS—contd.

	ICFC Group No	Total	1951 Males	Females
LIVELIHOOD CLASS V—contd				
<i>DIVISION 3—PROCESSING AND MANUFACTURE—METALS, CHEMICALS AND PRODUCTS THEREOF</i>		1,915	1,905	10
MANUFACTURE OF METAL PRODUCTS, OTHERWISE UNCLASSIFIED	3.0	941	936	5
Blacksmiths and other workers in iron and makers of implements	3.01	837	833	4
Workers in copper, brass and bell metal	3.02	44	44	..
Workers in other metals	3.03	53	52	1
Cutlery and surgical and veterinary instrument makers	3.04	.	.	.
Workers in mints, die sinks, etc.	3.05	.	.	.
Makers of arms, guns, etc., including workers in ordnance factories	3.06	7	7	.
IRON AND STEEL (BASIC MANUFACTURE) Manufacture of iron and steel, including all processes such as smelting and refining, rolling and drawing and alloying and the manufacture of castings, forgings and other basic forms of ferrous metals	3.1	9	9	.
NON-FERROUS METALS (BASIC MANUFACTURE) Smelting and refining, rolling, drawing and alloying and the manufacture of castings, forgings and other basic forms of non-ferrous metals	3.2	.	.	.
TRANSPORT EQUIPMENT	3.3	748	743	5
Building and repairing of ships and boats	3.31	19	19	.
Manufacture, assembly and repair of Railway equipment, motor vehicles and bicycles	3.32	499	494	5
Manufacture of aircraft	3.33	.	.	.
Coach builders and makers of carriages, palanquins, etc. and wheelwrights	3.34	227	227	.
Manufacture of all other transport equipments	3.35	3	3	.
ELECTRICAL MACHINERY, APPARATUS, APPLIANCES AND SUPPLIES	3.4	18	18	.
Manufacture of electric lamps	3.41	6	6	.
Manufacture of electric fans and other accessories	3.42	2	2	.
Manufacture of electric wire and cable	3.43	1	1	.
Manufacture of electrical generating, transmission and distribution apparatus, electrical household appliances other than lights and fans, electrical equipment for motor vehicles, aircraft and railway locomotives and cars, communication equipment and related products, including radios, phonographs, electric batteries, X-Ray and therapeutic apparatus; electronic tubes, etc.	3.44	9	9	.
MACHINERY (OTHER THAN ELECTRICAL MACHINERY) INCLUDING ENGINEERING WORKSHOPS—Engineering workshops engaged in producing machine and equipment parts	3.5	31	31	.
BASIC INDUSTRIAL CHEMICALS, FERTILISERS AND POWER ALCOHOL	3.6	..	..	.
Manufacture of basic industrial chemicals such as acids, alkali salts	3.61	..	..	.
Dyes, explosives and fireworks	3.62	..	..	.
Synthetic resins and other plastic materials (including synthetic fibres and synthetic rubber)	3.63	..	..	.
Chemical fertilisers	3.64	..	..	.
Power Alcohol	3.65	.	..	.
MEDICAL AND PHARMACEUTICAL PREPARATIONS	3.7	..	..	.
MANUFACTURE OF CHEMICAL PRODUCTS OTHERWISE UNCLASSIFIED	3.8	168	168	.
Manufacture of perfumes, cosmetic and other toilet preparations	3.81	92	92	.
Soaps and other washings and cleaning compounds	3.82	76	76	.
Paints, varnishes and lacquers and polishes	3.83	..	..	.
Ink	3.84	..	..	.
Matches	3.85	..	..	.
Candle	3.86	..	..	.
Starch	3.87	..	..	.
Other chemical products	3.88	..	..	.

TABLE 1.12—LIVELIHOOD DIVISIONS, SUBDIVISIONS AND GROUPS—contd.

	I.C.F.C. Group No.	Total	1951 Males	Females
LIVELIHOOD CLASS V—contd.				
DIVISION 4 PROCESSING AND MANUFACTURE—NOT ELSEWHERE SPECIFIED		6,174	6,032	142
MANUFACTURING INDUSTRIES OTHERWISE UNCLASSIFIED	4 0	812	809	3
Manufacture of professional scientific and controlling instruments (but not including cutlery, surgical or veterinary instruments)	4 01	..	..	..
Photographic and optical goods	4 02	21	21	..
Repair and manufacture of watches and clocks	4 03	54	53	1
Workers in precious stones, precious metals and makers of jewellery and ornaments	4 04	679	678	1
Manufacture of musical instruments and appliances	4 05	26	26	..
Stationery articles other than paper and paper products	4 06	3	3	..
Makers of plastic and celluloid articles other than rayon	4 07	1	..	1
Sports goods makers	4 08	1	1	..
Toy makers	4 09	1	1	..
Other miscellaneous manufacturing industries, including bone, ivory, horn, shell, etc.	4 00	26	26	..
PRODUCTS OF PETROLEUM AND COAL	4 1	4	1	3
Kerosene and petroleum refineries	4 11	1	1	..
Coke ovens	4 12	..	..	..
Other manufacturers of products from petroleum and coal	4 10	3	..	3
BRICKS, TILES AND OTHER STRUCTURAL CLAY PRODUCTS—Structural clay products such as bricks, tiles, etc.	4 2	962	917	45
CEMENT—CEMENT PIPES AND OTHER CEMENT PRODUCTS—Manufacture of cement, cement pipes and cement concrete products	4 3			
NON METALLIC MINERAL PRODUCTS	4 4	138	131	7
Potters and makers of earthenware	4 41	105	100	5
Makers of porcelain and crockery	4 42	..	..	..
Glass bangles, glass beads, glass necklaces etc.	4 43	..	..	..
Makers of other glass and crystal ware	4 44	..	..	..
Makers of other miscellaneous non metallic mineral products, lime burners	4 40	33	31	2
RUBBER PRODUCTS	4 5			
WOOD AND WOOD PRODUCTS OTHER THAN FURNITURE AND FIXTURES	4 6	4,114	4,047	67
Sawyers	4 61	782	782	..
Carpenters, turners and joiners	4 62	2,051	2,007	44
Veneer and plywood makers, match veneer and splint makers	4 63	25	25	..
Basket makers	4 64	1,239	1,218	21
Other industries of woody materials, including leaves, but not including furniture or fixtures	4 60	17	15	2
FURNITURE AND FIXTURES—Manufacture of household, office, public building, professional and restaurant furniture, office and store fixtures, screens, shades, etc., regardless of material used	4 7	34	29	
PAPER AND PAPER PRODUCTS—Manufacture of paper and paper board and articles of pulp, paper and paper board	4 8			
PRINTING AND ALLIED INDUSTRIES	4 9	108	96	12
Printers, lithographers, engravers	4 91	106	94	12
Bookbinders and stitchers	4 92	2	2	..
LIVELIHOOD CLASS VI				
(Commerce)				
DIVISION 6 COMMERCE		17,007	16,179	828
RETAIL TRADE OTHERWISE UNCLASSIFIED	6.0	5,976	5,695	281
Hawkers and Street vendors otherwise unclassified	6.01	882	824	58
Dealers in drugs and other chemical stores	6 02	150	145	5
Publishers, Booksellers and Stationers	6.03	1,054	1,047	7
General Storekeepers, shopkeepers and persons employed in shops otherwise unclassified	6.00	3,890	3,679	211

TABLE 1.12—LIVELIHOOD DIVISIONS, SUBDIVISIONS AND GROUPS—contd.

	ICEC Group No.	Total	1951 Males	Females
LIVELIHOOD CLASS VI—concl'd.				
RETAIL TRADE IN FOODSTUFFS (INCLUDING BEVERAGES AND NARCOTICS)	6 1	6,918	6,513	405
Retail dealers in grains and pulses, sweetmeats, sugar and spices, dairy products, eggs, and poultry; animals for food; fodder for animals; other foodstuffs, vegetables and fruits	6 11	5,220	4,891	329
Vendors of wine, liquors, aerated waters and ice in shops	6 12	117	114	3
Retail dealers in tobacco, opium and ganja	6 13	259	255	4
Hawkers and street-vendors of drink and foodstuffs	6 14	129	127	2
Retail dealers in pan, bidis and cigarettes	6 15	1,193	1,126	67
RETAIL TRADE IN FUEL (INCLUDING PETROL)	6 2	520	517	3
Petroleum distributors	6 21	165	165	..
Retail dealers (including hawkers and street vendor) in firewood, charcoal, coal, cow dung and all other fuel except petroleum	6 20	355	352	3
RETAIL TRADE IN TEXTILE AND LEATHER GOODS —Retail trade (including hawkers and street vendors) in piece goods, wool, cotton, silk, hair, wearing apparel, made up textile goods, skin, leather, furs, feathers, etc.	6 3	1,362	1,325	37
WHOLESALE TRADE IN FOODSTUFFS —Wholesale dealers in grains and pulses, sweetmeats, sugar and spices, dairy products, eggs and poultry, animals for food, fodder for animals, other foodstuffs, wholesale dealers in tobacco, opium and ganja	6 4	146	143	3
WHOLESALE TRADE IN COMMODITIES OTHER THAN FOODSTUFFS	6 5	1,428	1,398	30
REAL ESTATE —House and estate agents and rent collectors except agricultural land	6 6	43	32	11
INSURANCE —Insurance carriers and all kinds of insurance agents and other persons connected with insurance business	6 7	180	149	31
MONEY LENDING, BANKING AND OTHER FINANCIAL BUSINESS —Officers, employees of joint stock banks and co-operative banks, Munnis, agents or employees of indigenous banking firms, individual money lenders, exchangers and exchange agents, money changers and brokers and their agents	6 8	434	407	27
LIVELIHOOD CLASS VII (Transport)		7,839	7,681	158
DIVISION 7—TRANSPORT, STORAGE AND COMMUNICATIONS		8,201	8,013	188
TRANSPORT AND COMMUNICATIONS OTHERWISE UNCLASSIFIED AND INCIDENTAL SERVICES	7 0	555	519	36
TRANSPORT BY ROAD —Owners, managers and employees connected with mechanically driven and other vehicles (excluding domestic servant) palkis, etc., bearers and owners, pack elephant, camel, mule, ass and bullock owners and drivers, porters and messengers, persons engaged in road transport not otherwise classified, including freight transport by road, the operation of fixed facilities for road transport such as toll roads, highway bridges, terminals and parking facilities	7 1	3,368	3,323	45
TRANSPORT BY WATER —Owners and employees, officers, mariners, etc., of ships plying on the high seas, ships and boats plying on inland and coastal waters, persons employed in harbours, docks, rivers and canals, including pilots, ship brokers	7 2	116	115	1
TRANSPORT BY AIR —Persons concerned with airfields and aircraft other than construction of airfields and air ports	7 3	21	21	..
RAILWAY TRANSPORT —Railway employees of all kinds except those employed on construction works	7 4	3,779	3,703	76

TABLE 1.12—LIVELIHOOD DIVISIONS, SUBDIVISIONS AND GROUPS—contd.

	I.C.E.C. Group No	Total	1951 Males	Females
LIVELIHOOD CLASS VIII				
(Other services and miscellaneous sources)		34,454	31,795	2,659
STORAGE AND WAREHOUSING The operation of storage facilities such as warehouses, cold storage, safe deposits when such storage is offered as an independent service				
	7.5	..	..	..
POSTAL SERVICES	7.6	302	302	..
TELEGRAPH SERVICES	7.7	38	38	..
TELEPHONE SERVICES	7.8	14	14	..
WIRELESS SERVICES	7.9	8	8	..
DIVISION 5 CONSTRUCTION AND UTILITIES		5,372	5,255	117
CONSTRUCTION AND MAINTENANCE OF WORKS OTHERWISE UNCLASSIFIED				
	5.0	504	419	85
CONSTRUCTION AND MAINTENANCE BUILDINGS				
Mason and bricklayers	5.1	4,166	4,163	3
Stone cutters and dressers	5.11	2,555	2,555	..
Painters and decorators of house	5.12	940	937	3
Other persons engaged in the construction or maintenance of buildings other than buildings made of bamboo or similar materials	5.13	..	..	..
	5.10	671	671	..
CONSTRUCTION AND MAINTENANCE ROADS, BRIDGES AND OTHER TRANSPORT WORKS				
	5.2	431	428	3
CONSTRUCTION AND MAINTENANCE TELEGRAPH AND TELEPHONE LINES				
	5.3	1	1	..
CONSTRUCTION AND MAINTENANCE OPERATIONS IRRIGATION AND OTHER AGRICULTURE WORKS				
	5.4	103	103	..
WORKS AND SERVICES ELECTRIC POWER AND GAS SUPPLY				
Electric supply	5.5	82	82	..
Gas supply	5.51	82	82	..
	5.52	..	..	..
WORKS AND SERVICES DOMESTIC AND INDUSTRIAL WATER SUPPLY				
	5.6	35	35	..
SANITARY WORKS AND SERVICES Including scavengers				
	5.7	50	24	26
DIVISION 8 HEALTH, EDUCATION AND PUBLIC ADMINISTRATION		8,190	7,747	443
MEDICAL AND OTHER HEALTH SERVICES				
Registered medical practitioners	8.1	1,901	1,671	230
Vaid, Hakims and other persons practising medicine without being registered	8.11	421	385	36
Dentists	8.12	303	294	9
Midwives	8.13	17	17	..
Vaccinators	8.14	41	..	41
Compounders	8.15	19	17	2
Nurses	8.16	712	711	1
All other persons employed in hospitals or other public or private establishments rendering medical or other health services; but not including scavengers or other sanitary staff	8.17	170	34	136
	8.10	218	213	5
EDUCATIONAL SERVICES AND RESEARCH				
Professors, lecturers, teachers, and research workers employed in Universities, Colleges and Research Institutions	8.2	2,030	1,934	96
All other professors, lecturers and teachers	8.21	1,518	1,453	65
Managers, clerks and servants of educational and research institutions, including Libraries and Museums, etc.	8.22	483	452	31
	8.20	29	29	..
POLICE (OTHER THAN VILLAGE WATCHMEN)				
	8.4	912	908	4
VILLAGE OFFICERS AND SERVANTS, INCLUDING VILLAGE WATCHMEN				
	8.5	558	549	9
EMPLOYEES OF MUNICIPALITIES AND LOCAL BOARDS (but not including persons classifiable under any other division or subdivision)				
	8.6	435	340	95

TABLE 1.12—LIVELIHOOD DIVISIONS SUBDIVISIONS AND GROUPS—concl'd.

	I.C.I.C. Group No.	Total	1951 Males	Females
LIVELIHOOD CLASS VIII—concl'd				
EMPLOYEES OF STATE GOVERNMENTS (but not including persons classifiable under any other division or subdivision)	8.7	935		
EMPLOYEES OF THE UNION GOVERNMENT (including persons classifiable under subdivision 8.3 but not including persons classifiable under any other division or subdivision)	8.8	1,305	1,305	..
EMPLOYEES OF NON-INDIAN GOVERNMENTS	8.9	114	114	3
<i>DIVISION 9—SERVICES NOT ELSEWHERE SPECIFIED</i>		<i>18,981</i>	<i>17,219</i>	<i>1,732</i>
SERVICES OTHERWISE UNCLASSIFIED	9.0	9,667	8,927	740
DOMESTIC SERVICES (BUT NOT INCLUDING SERVICES RENDERED BY MEMBERS OF FAMILY HOUSEHOLDS TO ONE ANOTHER)	9.1	6,126	5,493	633
Private motor drivers and cleaners	9.11	791	790	1
Cooks	9.12	595	547	48
Gardeners	9.13	77	75	2
Other domestic servants	9.10	4,663	4,081	582
BARBERS AND BEAUTYSHOPS—Barbers, hair dressers and wig makers, lat-tooters, shampooers bath houses	9.2	789	786	
LAUNDRIES AND LAUNDRY SERVICES—Laundries and laundry services, washing and cleaning	9.3	344	321	23
HOTELS, RESTAURANTS AND EATING HOUSES	9.4	258	257	1
RECREATION SERVICES—Production and distribution of motion pictures, and the operation of cinemas and allied services, Managers and employees of theatres, opera companies, etc., musicians, actors, dancers, etc., conjurers, acrobats, reciters, exhibitors of curiosities and wild animals, radio broadcasting studios	9.5	700	392	308
LEGAL AND BUSINESS SERVICES	9.6	495	488	7
Lawyers of all kinds, including qazi's law agents and mukhtars	9.61	167	165	2
Clerks of lawyers, petition writers, etc.	9.62	116	116	..
Architects, Surveyors, Engineers and their employees (not being State Servants)	9.63	168	163	5
Public Scribes, Stenographers, Accountants, Auditors	9.64	20	20	..
Managers, clerks, servants and employees of Trade Associations, Chamber of Commerce, Board of Trade, Labour Organisation and similar organisation of employers and employees	9.65	24	24	
ARTS, LETTERS AND JOURNALISM	9.7	80	77	3
Artists, sculptors and image makers	9.71	77	77	..
Authors, editors and journalists	9.72	3	..	3
RELIGIOUS, CHARITABLE AND WELFARE SERVICES	9.8	522	508	14
Priests, Ministers, Monks, Nuns, Sadhus, Religious mendicants and other religious workers	9.81	497	484	13
Servants in religious edifices, burial and burning grounds, pilgrim conductors and circumcisers, etc.	9.82	25	24	1
Managers and employees of organisations and institutions rendering charitable and other welfare services	9.83	..	..	..
UNCLASSIFIABLE		1,519	1,182	367

TABLE 1.13—CII—LIVELIHOOD CLASSES BY AGE GROUPS
(i) SAMPLE POPULATION

Age Groups	TOTAL	Persons including dependants who derive their principal means of livelihood from : Agricultural Classes										Persons including dependants who derive their principal means of livelihood from : Non-Agricultural Classes									
		I		II		III		IV		V		VI		VII		VIII					
		Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
JALPAIGURI DISTRICT																					
All ages	Total	81,396	44,354	37,042	9,209	8,538	11,298	9,799	486	303	209	175	17,021	15,072	1,852	1,187	933	397	3,346	1,571	
	Rural	77,508	42,042	35,466	9,165	8,510	11,270	9,777	483	300	194	155	16,704	14,837	1,174	845	693	280	2,359	962	
0	Total	2,251	1,094	1,242	226	309	288	312	5	9	6	..	343	485	63	46	24	20	54	51	
	Rural	2,134	948	1,186	226	309	288	310	5	9	4	..	337	489	34	22	21	17	33	30	
1-4	Total	8,335	3,954	4,376	1,001	946	1,130	1,181	33	32	23	22	1,322	1,748	148	161	59	57	243	179	
	Rural	7,948	3,763	4,185	946	994	1,129	1,179	33	32	22	18	1,293	1,723	90	82	45	40	155	117	
5-14	Total	20,032	10,421	9,611	2,576	2,340	2,864	2,641	90	80	73	41	3,612	3,640	355	302	127	119	624	398	
	Rural	19,158	9,974	9,184	2,570	2,383	2,855	2,636	90	78	69	37	3,550	3,572	213	163	98	85	429	230	
15-24	Total	15,645	7,876	7,769	1,453	1,749	1,780	1,917	83	55	34	52	3,123	3,356	349	239	204	80	850	321	
	Rural	14,779	7,340	7,439	1,442	1,744	1,771	1,909	81	54	30	48	3,058	3,296	207	141	150	52	601	195	
25-34	Total	14,445	8,216	6,229	1,558	1,421	1,955	1,586	109	55	28	19	3,164	2,627	402	199	266	59	734	263	
	Rural	13,698	7,709	5,939	1,551	1,416	1,949	1,583	109	55	26	17	3,086	2,593	266	110	181	44	541	171	
35-44	Total	10,335	6,395	3,940	1,138	792	1,533	1,102	74	29	10	21	2,808	1,694	260	98	159	29	413	175	
	Rural	9,984	6,090	3,794	1,132	789	1,530	1,101	73	29	10	17	2,764	1,679	167	56	115	22	299	101	
45-54	Total	6,199	3,934	2,265	712	499	987	607	53	30	18	7	1,682	928	150	78	74	17	258	99	
	Rural	5,933	3,776	2,157	707	495	987	607	53	30	18	6	1,660	912	108	37	64	10	179	60	
55-64	Total	2,789	1,682	1,127	313	250	411	328	16	8	9	12	707	429	78	40	16	12	112	48	
	Rural	2,673	1,597	1,076	312	249	411	328	16	8	7	11	700	423	56	18	15	9	80	30	
65-74	Total	1,015	662	353	143	89	178	92	20	5	7	..	220	116	42	18	1	4	51	29	
	Rural	964	632	332	141	88	178	91	20	5	7	..	219	112	30	13	1	1	36	22	
75 and over	Total	339	214	125	88	39	72	33	3	..	1	1	37	38	3	6	3	..	7	8	
	Rural	326	207	119	87	39	72	33	3	..	1	1	34	37	1	3	3	..	6	6	
Age not stated	Total	11	6	5	1	4	..	..	..	..	..	..	3	1	2	..	..	..	..	..
	Rural	11	6	5	1	4	..	..	..	..	..	..	3	1	2	..	..	..	..	..

TABLE 1.13—CII—LIVELIHOOD CLASSES BY AGE GROUPS—concd.
(ii) DISPLACED POPULATION

Agricultural Classes										Non-Agricultural Classes										
Persons (including dependants) who derive their principal means of livelihood from :										Persons (including dependants) who derive their principal means of livelihood from :										
TOTAL		I		II		III		IV		V		VI		VII		VIII				
Age Groups	Persons	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
JALPAIGURI DISTRICT																				
All ages	Total	98,572	54,119	44,453	6,802	5,991	14,908	12,689	1,493	1,367	191	180	6,703	5,580	10,239	7,950	2,645	1,792	11,138	8,90
	Rural	71,344	38,880	32,364	6,702	5,903	14,725	12,475	1,478	1,351	87	92	4,042	3,501	4,942	3,885	1,245	801	5,859	4,35
0	Total	880	488	392	51	49	115	110	8	5	1	1	13	19	122	47	12	15	166	14
	Rural	467	224	243	50	48	114	110	7	5	1	1	8	19	16	30	9	10	140	12
1-4	Total	7,486	3,901	3,585	390	436	939	918	81	126	15	20	465	517	689	722	172	167	1,150	67
	Rural	4,917	2,457	2,460	382	425	924	903	79	123	9	10	285	292	332	336	76	76	370	31
5-14	Total	23,369	12,689	11,643	1,372	1,467	3,277	2,866	331	379	54	64	1,646	1,201	2,773	2,186	611	547	2,625	2,93
	Rural	17,201	9,135	8,066	1,350	1,437	3,212	2,806	327	377	25	34	1,024	926	1,403	1,072	345	329	1,528	1,19
15-24	Total	20,685	11,028	9,657	1,239	1,031	2,726	2,616	283	238	46	25	1,632	1,260	2,079	1,948	743	517	2,280	2,06
	Rural	14,304	7,622	6,682	1,217	1,011	2,683	2,566	282	235	12	7	936	781	1,948	1,804	692	402	1,983	1,86
25-34	Total	18,213	10,618	7,595	1,417	1,243	2,755	2,364	293	244	34	18	1,355	983	2,125	1,238	603	49	1,075	1,20
	Rural	13,328	7,529	5,799	1,397	1,233	2,730	2,327	292	240	22	9	760	544	1,195	634	293	49	1,075	1,20
35-44	Total	12,364	7,583	4,781	1,001	802	2,618	1,582	274	183	16	15	820	657	1,169	728	260	150	1,425	69
	Rural	9,659	5,793	3,866	989	795	2,596	1,569	271	180	10	7	510	435	690	464	132	71	885	47
45-54	Total	7,850	4,410	3,440	710	365	1,486	1,197	119	98	10	13	461	317	628	544	150	133	846	57
	Rural	6,101	3,408	2,693	706	359	1,472	1,176	116	98	2	5	294	208	420	276	63	58	411	42
55-64	Total	4,133	2,098	2,035	408	344	682	637	73	60	10	16	192	125	240	169	46	44	411	15
	Rural	3,259	1,709	1,550	404	341	627	626	73	59	3	13	122	125	240	169	24	20	216	18
65-74	Total	1,738	847	891	105	167	241	235	23	53	4	7	58	133	184	149	31	30	171	11
	Rural	1,318	653	665	98	167	238	231	23	53	3	6	56	116	149	68	18	10	101	7
75 and over	Total	765	401	364	69	82	104	118	8	10	1	2	31	47	100	52	17	13	62	4
	Rural	580	294	286	69	82	104	116	8	10	1	1	17	22	37	20	5	5	53	3
Age not stated	Total	126	56	70	40	5	15	46	1	1	1	1	1	10	10	5	5	1	1	1
	Rural	110	56	54	40	5	15	45	1	1	1	1	1	10	10	5	5	1	1	1

TABLE 1.14—DVII—LIVELIHOOD CLASSES BY EDUCATIONAL STANDARDS—contd.

Educational standard	Agricultural Classes										Non-Agricultural Classes									
	Total		Livelihood Class I		Livelihood Class II		Livelihood Class III		Livelihood Class IV		Livelihood Class V		Livelihood Class VI		Livelihood Class VII		Livelihood Class VIII			
	Persons	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Graduate in Arts or Science	804	752	52	28		8	7	3		10		110		141	12	38	3	414	30	
Rural—87	35	35		5				2		2		5		2		13		19		
Rural—88	73	69	4	3								12		27		2		14	2	
Rural—89	70	67	3	1		3				2		15		14	1	1		31	2	
Rural—90	42	40	2	14				1				12		3	1	1		9		
Rural—91	60	53	7	2		4	6					23		1				23	1	
Urban—35	524	488	36	3		1				6		43		94	10	23	1	318	25	
Post Graduate in Arts or Science	186	147	19	13	10	1	1					3		55		4		71	8	
Rural—87	17	7		5	10													2		
Rural—88	48	48										1		43		2		2		
Rural—89	3	5	1	1		1						1						2	1	
Rural—90	5	5		5										1						
Rural—91	2	1	1				1													
Urban—35	88	81	7	2								1		11		2		65	7	
Teaching	277	273	4	38	1	17				2		24		38		3		147	3	
Rural—87	26	26		2		1								1				21		
Rural—88	24	21	3			1								20				22		
Rural—89	38	37	1	4	1					1		2		4				3		
Rural—90	59	59		26		5														
Rural—91	14	14		5		9														
Urban—35	118	116		1						1				12		1		101		
Engineering	63	63		1								20		8		7		27		
Rural—87	6	6										5		1				2		
Rural—88	13	13										4		5				3		
Rural—89	3	3																20		
Rural—90	20	20										9								
Rural—91	9	9																		
Urban—35	12	12		1										2		7		2		

TABLE 1.14—DVII—LIVELIHOOD CLASSES BY EDUCATIONAL STANDARDS—contd.

Educational standards	Total			Agricultural Classes								Non-Agricultural Classes							
	Persons	Males Females		Livelihood Class I		Livelihood Class II		Livelihood Class III		Livelihood Class IV		Livelihood Class V		Livelihood Class VI		Livelihood Class VII		Livelihood Class VIII	
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Agriculture	2	2	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..
Rural—87	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Rural—88	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Rural—89	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Commerce	27	27	..	..	..	..	..	..	..	2	..	3	..	2	..	3	..	17	..
Rural—87	7	7	..	..	..	..	..	..	..	..	..	1	..	2	..	..	..	6	..
Rural—88	16	16	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	11	..
Urban—35	4	4	..	..	..	..	..	..	..	2	..	1	..	..	..	1	..	..	..
Legal	206	206	..	2	..	..	..	..	..	1	..	9	..	20	..	3	..	171	..
Rural—87	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Rural—88	8	8	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	6	..
Rural—89	11	11	..	..	..	..	..	..	..	1	..	2	..	2	..	..	..	..	..
Rural—90	1	1	..	1	..	..	..	..	..	..	..	6	..	..	..	2	..	..	..
Rural—91	8	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	177	177	..	1	..	..	..	..	..	..	..	1	..	10	..	1	..	164	..
Medical	350	344	6	26	..	..	..	..	..	2	..	47	1	32	..	9	..	228	5
Rural—87	29	29	..	7	..	..	..	..	..	..	..	1	..	3	..	1	..	18	..
Rural—88	32	31	1	2	..	..	..	..	..	..	..	19	..	21	..	4	..	3	1
Rural—89	48	48	..	..	..	..	..	..	..	..	..	10	..	..	..	1	..	28	..
Rural—90	45	45	..	12	..	..	..	..	..	..	..	11	1	..	..	..	..	23	..
Rural—91	23	22	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	10	..
Urban—35	173	169	4	5	..	..	..	..	..	2	..	6	..	8	..	2	..	146	4
Others	96	91	5	59	..	4	1	1	..	1	..	4	..	3	1	2	..	17	3
Rural—87	11	11	..	7	..	..	..	..	..	..	..	2	..	..	..	..	..	4	..
Rural—89	7	6	..	..	..	4	..	..	..	..	..	2	..	..	..	..	..	..	..
Rural—90	71	67	4	52	..	..	1	1	..	1	..	2	..	3	1	2	..	6	2
Rural—91	7	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..

TABLE 1.14—DVII—LIVELIHOOD CLASSES BY EDUCATIONAL STANDARDS—concl'd.

Educational standard	Agricultural Classes										Non-Agricultural Classes									
	Total		Livelihood Class I		Livelihood Class II		Livelihood Class III		Livelihood Class IV		Livelihood Class V		Livelihood Class VI		Livelihood Class VII		Livelihood Class VIII			
			Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females		
1	2	3	4	..	..	..	..	..	..	..	..	12	13	14	15	16	17	18	19	20
British Degrees or Diplomas	21	21	..	..	..	..	..	..	..	..	12	..	12	..	2	..	..	..	7	..
Graduate in Arts or Science	10	10	..	..	..	..	..	..	..	..	6	..	6	..	2	..	..	..	2	..
Rural—87	2	2	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..
Rural—89	4	4	..	..	..	..	..	..	..	..	4	..	4	..	..	..	..	..	..	..
Rural—91	2	2	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..
Urban—35	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Teaching	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Urban—35	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Engineering	2	2	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	1	..
Rural—89	1	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..
Urban—35	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Agriculture	2	2	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..
Rural—89	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Commerce	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Urban—35	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Legal	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Urban—35	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medical	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Rural—91	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	3	3	..	..	..	..	..	..	..	..	3	..	3	..	..	..	..	..	..	..
Rural—89	2	2	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	..
Rural—91	1	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..
American Degrees or Diplomas	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Medical	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Urban—35	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continental Degrees or Diplomas	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Legal	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Rural—89	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.15—CIII—AGE AND CIVIL CONDITION

District and Tract	SAMPLE POPULATION										Age 0-4		Age 1-4	
	Total		Unmarried		Married		Widowed or Divorced		Total		Total		Total	
	Persons	Males	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JALPAIGURI DISTRICT														
Total	81,396	44,354	37,042	21,901	15,967	20,005	16,463	2,448	4,212	1,004	1,242	3,959	4,376	4,185
Rural	77,508	42,042	35,466	20,681	15,146	18,994	16,240	2,172	4,040	948	1,186	3,763	4,185	4,185
Urban	3,888	2,312	1,576	1,220	771	1,016	633	76	172	61	56	196	191	191
Rural—87	9,738	5,200	4,538	2,818	1,939	2,151	2,021	291	574	120	149	510	519	519
Rural—88	18,141	9,936	8,205	5,304	3,110	4,074	3,757	554	1,154	213	278	962	917	917
Rural—89	17,465	9,386	8,074	4,763	3,711	3,986	3,601	737	787	290	371	925	925	925
Rural—90	12,958	7,043	5,915	3,589	2,579	3,112	2,902	342	534	168	210	707	718	718
Rural—91	19,206	10,477	8,729	4,207	3,657	5,752	4,069	508	1,003	227	278	662	1,103	1,103
Urban—35	3,888	2,312	1,576	1,220	771	1,016	633	76	172	61	56	196	191	191
DISPLACED POPULATION														
Total	98,572	54,119	44,453	28,275	16,946	23,044	20,584	2,780	7,003	488	392	3,901	3,585	3,585
Rural	71,244	38,880	32,364	19,688	11,115	18,934	15,466	2,254	5,783	224	243	2,457	2,460	2,460
Urban	27,328	15,239	12,089	8,587	5,751	6,156	5,118	496	1,220	264	149	1,444	1,125	1,125
Rural—87	27,302	14,752	12,550	7,841	4,291	6,358	5,804	553	2,455	102	107	996	1,178	1,178
Rural—88	16,738	9,212	7,526	4,739	2,933	4,129	3,468	344	1,125	39	32	621	583	583
Rural—89	4,353	2,495	1,858	1,497	765	938	856	60	237	2	2	151	164	164
Rural—90	14,228	7,767	6,461	3,984	1,767	3,683	3,213	1,100	1,481	74	68	352	251	251
Rural—91	8,623	4,654	3,969	2,627	1,359	1,830	2,125	197	485	9	34	337	284	284
Urban—35	27,328	15,239	12,089	8,587	5,751	6,156	5,118	496	1,220	264	149	1,444	1,125	1,125

TABLE 1.15—CIII—AGE AND CIVIL CONDITION—contd.

District and Tract	Age 5—14										Age 15—24									
	Total		Unmarried		Married		Widowed or divorced				Total		Unmarried		Married		Widowed or divorced			
	Males	Females	Males	Females	Males	Females	Males	Females			Males	Females	Males	Females	Males	Females	Males	Females		
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					
JALPAIGURI DISTRICT																				
Total	10,421	9,611	10,263	8,643	151	934	7	34	7,876	7,769	4,953	1,491	2,830	6,085	93	193				
Rural	9,974	9,184	9,316	8,230	151	920	7	34	7,340	7,439	4,881	1,493	2,688	5,860	91	186				
Urban	447	427	447	413	..	14	..	..	536	330	372	98	162	225	2	7				
Rural—87	1,299	1,248	1,288	1,140	8	106	3	2	935	929	681	119	243	782	11	28				
Rural—88	2,505	2,162	2,494	1,846	10	251	1	15	1,722	1,708	1,239	191	455	1,457	28	60				
Rural—89	2,022	2,090	2,015	1,989	4	100	3	1	1,610	1,704	1,186	475	403	1,187	21	42				
Rural—90	1,729	1,574	1,724	1,365	5	170	..	9	1,142	1,270	685	210	468	1,029	9	31				
Rural—91	2,419	2,110	2,295	1,810	124	293	..	7	1,431	1,828	810	398	1,094	1,405	22	25				
Urban—35	447	427	447	413	..	14	..	..	536	330	372	98	162	225	2	7				
DISPLACED POPULATION																				
Total	12,689	11,643	12,572	10,477	108	1,117	9	49	11,028	9,657	8,098	2,090	2,825	7,037	105	530				
Rural	9,135	8,046	9,098	7,056	28	968	9	42	7,622	6,682	5,591	1,129	1,935	5,092	96	461				
Urban	3,554	3,577	3,474	3,421	80	149	7	7	3,406	2,975	2,507	961	890	1,945	9	69				
Rural—87	3,415	3,422	3,408	2,722	5	646	..	34	2,791	2,290	2,164	185	624	1,904	3	191				
Rural—88	2,399	1,939	2,395	1,761	3	172	1	6	1,836	1,678	1,313	462	515	1,155	8	61				
Rural—89	606	523	606	517	..	6	..	..	591	448	540	82	51	366	..	..		
Rural—90	1,626	1,201	1,609	1,134	17	66	6	1	1,365	1,370	715	282	581	949	69	179				
Rural—91	1,089	981	1,080	922	3	58	6	1	1,039	966	859	118	164	758	16	30				
Urban—35	3,554	3,577	3,474	3,421	80	149	..	7	3,406	2,975	2,507	961	890	1,945	9	69				

TABLE 1.15—CIII—AGE AND CIVIL CONDITION—contd.

District and Tract	Age 25—34										Age 35—44									
	Total		Unmarried		Married		Widowed or divorced				Total		Unmarried		Married		Widowed or divorced			
	Males	Females	Males	Females	Males	Females	Males	Females			Males	Females	Males	Females	Males	Females	Males	Females		
JALPAIGURI DISTRICT																				
Total	8,216	6,223	1,349	145	6,387	5,547	480	537	6,395	3,940	243	45	5,430	2,815	683	1,090				
Rural	7,709	5,989	1,219	135	6,028	5,335	462	519	6,040	3,794	234	42	5,181	2,707	651	1,045				
Urban	507	240	130	10	359	212	18	18	355	146	9	3	279	108	18	35				
Rural—87	1,007	783	185	6	768	682	54	85	766	461	31	5	641	302	74	154				
Rural—88	1,913	1,452	294	17	1,494	1,272	125	163	1,514	839	53	5	1,038	539	143	295				
Rural—89	1,830	1,388	352	34	1,326	1,277	152	77	1,478	861	66	7	1,192	684	230	170				
Rural—90	1,275	863	198	25	1,027	768	50	70	967	613	88	10	774	512	105	91				
Rural—91	1,684	1,503	190	53	1,413	1,326	81	124	1,705	1,020	20	15	1,576	670	109	335				
Urban—35	507	240	130	10	359	212	18	18	305	146	8	3	279	108	18	35				
DISPLACED POPULATION																				
Total	10,618	7,595	2,899	182	7,203	6,451	516	962	7,583	4,781	211	67	6,805	3,408	567	1,306				
Rural	7,529	5,799	2,064	106	5,017	4,853	448	840	5,793	3,986	156	58	5,161	2,636	476	1,172				
Urban	3,089	1,796	835	76	2,186	1,598	68	122	1,790	915	55	9	1,644	772	91	134				
Rural—87	2,740	2,057	1,059	12	1,594	1,683	87	362	2,273	1,360	86	36	2,076	885	111	439				
Rural—88	1,684	1,246	301	66	1,317	1,023	66	157	1,191	877	30	18	1,077	639	84	220				
Rural—89	521	308	164	27	342	286	15	22	337	168	11	4	319	118	7	50				
Rural—90	1,628	1,392	216	27	1,121	1,121	248	244	1,347	993	14	4	1,167	640	236	349				
Rural—91	956	796	324	1	600	740	32	55	645	468	15	1	582	354	48	114				
Urban—35	3,089	1,796	835	76	2,186	1,598	68	122	1,790	915	55	9	1,644	772	91	134				

TABLE 1.15—CIII—AGE AND CIVIL CONDITION—contd.

District and Tract	Age 45—54										Age 55—64									
	Total		Unmarried		Married		Widowed or divorced		Total	Males	Females	Unmarried		Married		Widowed or divorced		Total	Males	Females
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
47	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62				
Total	3,934	2,965	69	14	3,225	1,654	570	1,157	1,662	1,127	15	8	1,287	310	359	809				
Rural	3,776	2,157	63	14	3,159	1,037	554	1,106	1,597	1,076	16	8	1,232	297	349	771				
Urban	158	108	6		155	57	16	51	65	51			55	13	10	38				
Rural—87	367	263	2		224	165	41	158	129	133		1	104	27	25	105				
Rural—88	852	495	15	3	699	167	138	325	338	227	9	2	255	29	75	196				
Rural—89	832	466	17	4	633	254	152	268	354	256	3	2	238	84	113	170				
Rural—90	645	387	28	7	550	231	27	149	253	202	5	3	194	72	54	127				
Rural—91	1,080	546	1		953	260	126	266	523	258			441	85	82	173				
Urban—35	158	108	6		136	57	16	51	65	51			55	13	10	38				
Total	4,410	3,440	62	28	3,634	1,605	714	1,717	2,608	2,035	12	1	1,605	657	481	1,377				
Rural	3,408	2,693	57	28	2,759	1,269	592	1,346	1,704	1,550	6	1	1,305	487	395	1,062				
Urban	1,002	747	5		875	336	122	371	389	485	3		300	170	86	315				
Rural—87	1,322	1,059	15	23	1,160	435	147	540	703	645	5	1	579	157	119	487				
Rural—88	784	738	12	4	689	587	83	347	390	257	4		325	65	61	192				
Rural—89	159	129	25		131	58	13	71	138	79			68	22	13	57				
Rural—90	800	590	2	1	494	262	304	317	387	393			205	167	182	226				
Rural—91	343	217	3		295	55	45	121	150	176			130	76	20	100				
Urban—35	1,002	747	5		875	426	122	321	389	485	3		300	170	86	315				

DISPLACED POPULATION

JALPAIGURI DISTRICT

TABLE 1.15—CIII—AGE AND CIVIL CONDITION—contd.

District and Tract	Age 65—74						Age 75 and over						Age not stated					
	Total			Unmarried			Married			Widowed or divorced			Total			Unmarried		
	M		F	M		F	M		F	M		F	M		F	M		F
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
JALPAIGURI DISTRICT																		
Total	662	353	1015	2	457	62	195	289	214	125	4	137	12	73	113	6	5	11
Rural	632	332	964	2	435	58	187	272	207	119	4	134	12	69	107	3	5	8
Urban	30	21	51	..	22	4	8	17	7	6	..	3	..	4	6	..	..	..
Rural—87	95	34	129	..	85	6	10	28	31	19	..	18	1	13	18	1	..	..
Rural—88	118	94	212	1	82	15	35	78	57	29	3	45	3	26	2	4	..	..
Rural—89	96	90	186	1	68	13	27	77	40	24	1	21	2	18	22	..	1	..
Rural—90	111	55	166	6	65	15	40	39	45	23	..	29	5	16	18	1	..	..
Rural—91	212	59	271	2	135	9	75	50	34	24	..	21	1	13	23	..	..	..
Urban—35	30	21	51	..	22	4	8	17	7	6	..	3	..	4	6	..	..	..
DISPLACED POPULATION																		
Total	847	891	1738	3	25	641	172	203	401	364	4	246	25	151	339	56	70	126
Rural	653	665	1318	3	25	503	122	147	518	286	4	203	21	87	265	56	54	111
Urban	194	226	420	..	..	138	50	56	107	78	..	43	4	64	74	..	16	15
Rural—87	248	313	561	2	24	195	38	51	154	156	1	120	5	33	151	8	3	11
Rural—88	178	125	303	1	1	155	21	22	103	56	44	35	5	19	39	34	7	41
Rural—89	38	23	61	..	..	30	..	8	23	12	14	9	..	3	14	..	..	..
Rural—90	124	116	240	..	..	82	23	42	93	51	..	24	8	26	45	13	44	57
Rural—91	65	88	153	..	..	41	40	24	21	19	..	15	3	6	16	..	..	..
Urban—35	194	226	420	..	..	138	50	56	107	78	..	43	4	64	74	..	16	15

TABLE 1.15—CHIL—AGE AND CIVIL CONDITION—concl'd.

Classified Abstract of Divorced Persons

District and Tract	Total		Age 5—14		Age 15—24		Age 25—34		Age 35—44		Age 45—54		Age 55—64		Age 65—74		Age 75 and over		Age not stated	
	Per- sons	Males	Fe- males	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1																				

SAMPLE POPULATION

JALPAIGURI DISTRICT

Total	332	168	164	4	10	11	33	44	31	51	57	31	19	17	12	9	.	1	2	.	.
Rural	332	168	164	4	10	11	33	44	31	51	57	31	19	17	12	9	.	1	2	.	.
Urban	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rural—87	14	9	5	3	2	1	3	3	2	8	5	7	3	1	1	1	.	1	.	.	.
Rural—88	51	30	21	.	2	3	9	9	2	12	7	7	3	2	2	.	.	.	.	.	.
Rural—89	74	38	36	1	1	3	14	13	9	9	1	1	1	1	.	.	.	.	.	.	.
Rural—90	33	15	18	.	5	4	5	8	5	9	1	1	1	1	.	8	.	.	2	.	.
Rural—91	160	76	84	.	2	4	3	14	10	22	44	15	13	13	10	.	.	.	.	.	.

DISPLACED POPULATION

Total	85	35	50	.	9	5	3	9	14	6	8	5	10	6	5	4	.	.	.	.	.
Rural	52	24	28	.	2	5	3	7	14	5	5	2	3	5	1	1	.	.	.	.	.
Urban	33	11	22	.	7	.	.	2	.	1	3	3	7	1	5	.	.	.	.	.	.
Rural—87	17	2	15	.	.	.	.	2	12	2	1	2	3	3	.	.	.	.	.	.	.
Rural—88	15	10	5	.	2	.	2	3	.	2	1	2	.	3	.	.	.	.	.	.	.
Rural—90	9	7	2	.	.	5	.	2	2	.	2	.	.	2	1	.	.	.	.	.	.
Rural—91	11	5	6	.	.	.	1	2	2	3	2	.	.	.	.	.	.	.	.	.	.
Urban—35	33	11	22	.	7	.	.	2	.	1	3	3	7	1	5	4	.	.	.	.	.

TABLE 1.16—CIV—AGE AND LITERACY

District and Tract	All ages						Age 0—4				Age 5—9			
	Total		Literate		Illiterate		Total		Males		Total		Males	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
JALPAIGURI DISTRICT														
Total	44,354	37,042	8,023	2,074	36,331	34,968	4,463	5,618	5,171	5,140	467	240	4,704	4,900
Rural	42,042	35,466	6,797	1,410	35,245	34,058	4,711	5,371	4,971	4,937	393	171	4,578	4,766
Urban	2,312	1,576	1,226	664	1,086	912	257	247	200	203	74	69	126	134
Rural—87	5,290	4,538	1,030	124	4,170	4,414	630	668	693	711	37	21	656	690
Rural—88	9,936	8,205	2,228	255	7,708	7,950	1,195	1,195	1,295	1,196	140	29	1,155	1,167
Rural—89	9,386	8,079	1,618	290	7,768	7,789	1,122	1,199	999	1,056	59	26	940	1,030
Rural—90	7,043	5,915	1,085	469	5,958	5,446	875	928	900	824	104	55	786	769
Rural—91	10,477	8,729	836	332	9,641	8,397	889	1,381	1,084	1,150	53	40	1,031	1,119
Urban—35	2,312	1,576	1,226	664	1,086	912	257	247	200	203	74	69	126	134
DISPLACED POPULATION														
Total	54,119	44,453	21,848	9,701	32,271	34,752	4,389	3,977	5,847	5,496	1,231	779	4,616	4,717
Rural	38,880	32,364	14,954	6,946	23,926	25,458	2,681	2,703	4,146	3,976	792	552	3,354	3,424
Urban	15,239	12,089	6,894	2,795	8,345	9,294	1,708	1,274	1,701	1,520	439	227	1,262	1,293
Rural—87	14,752	12,550	3,884	1,436	10,868	11,114	1,098	1,285	1,532	1,709	177	76	1,355	1,633
Rural—88	9,212	7,526	3,889	1,520	5,323	5,006	660	615	1,071	1,000	238	108	833	892
Rural—89	2,495	1,858	1,823	1,155	672	703	151	166	274	263	133	198	141	65
Rural—90	7,767	6,461	3,030	1,230	4,737	5,231	426	319	741	524	110	42	631	482
Rural—91	4,654	3,969	2,328	1,565	2,326	2,404	346	318	528	480	134	128	394	352
Urban—35	15,239	12,089	6,894	2,795	8,345	9,294	1,708	1,274	1,701	1,520	439	227	1,262	1,293

TABLE 1.16—CIV—AGE AND LITERACY—contd.

District and Tract	Age 10—14						Age 15—24						Age 25—34					
	Total			Illiterate			Total			Illiterate			Total			Illiterate		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	33
JALPAIGURI DISTRICT																		
Total	5,250	4,471	1,050	387	4,200	4,084	7,876	7,769	1,778	648	7,121	8,216	6,239	1,970	376	6,246	5,853	
Rural	5,003	4,247	885	267	4,118	3,980	7,340	7,439	1,442	441	6,948	7,704	5,989	1,888	265	6,021	5,724	
Urban	247	224	165	120	82	104	536	330	336	207	123	507	250	282	111	225	129	
DISPLACED POPULATION																		
Rural—87	606	537	116	30	490	507	935	929	268	38	697	1,007	783	288	17	789	765	
Rural—88	1,210	966	315	53	885	913	1,722	1,708	439	89	1,283	1,913	1,452	528	45	1,385	1,407	
Rural—89	1,023	1,034	185	72	838	962	1,610	1,704	346	81	1,274	1,830	1,388	432	62	1,398	1,336	
Rural—90	829	780	153	60	676	690	1,142	1,270	215	134	927	1,275	963	269	68	1,066	795	
Rural—91	1,335	960	116	52	1,219	908	1,931	1,828	164	100	1,757	1,684	1,503	191	73	1,433	1,430	
Urban—35	247	224	165	120	82	104	536	330	346	207	123	507	240	282	111	225	129	
Total	6,842	6,147	2,965	1,837	3,877	4,310	11,028	9,657	5,630	2,999	5,348	10,918	7,545	5,411	2,038	5,207	5,557	
Rural	4,989	4,090	1,960	1,318	3,029	2,772	7,622	6,682	3,679	1,955	4,947	7,532	5,132	3,912	1,312	3,927	4,287	
Urban	1,853	2,057	1,005	519	848	1,538	3,406	2,975	1,951	1,005	1,750	3,009	1,745	1,494	526	1,280	1,270	
Rural—87	1,883	1,713	549	347	1,334	1,366	2,791	2,280	913	408	1,878	2,740	2,057	837	290	1,903	1,767	
Rural—88	1,328	939	547	371	781	568	1,836	1,678	820	400	946	1,684	1,243	915	306	769	940	
Rural—89	332	260	271	194	61	66	591	448	348	521	308	521	308	438	225	93	83	
Rural—90	885	677	322	150	563	527	1,365	1,370	760	330	615	1,040	1,142	816	423	812	969	
Rural—91	561	501	271	256	290	245	1,039	996	643	458	346	950	735	635	268	350	525	
Urban—35	1,853	2,057	1,005	519	848	1,538	3,406	2,975	1,951	1,005	1,455	3,009	1,745	1,494	526	1,280	1,270	

TABLE 1.16—CIV—AGE AND LITERACY—contd.

District and Tract	Age 35—44						Age 45—54						Age 55—64					
	Total			Literate			Total			Literate			Total			Literate		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
JALPAIGURI DISTRICT																		
Total	6,395	3,940	10,335	2,388	5,029	7,417	3,934	2,265	6,199	740	104	844	1,682	1,127	2,809	375	57	432
Rural	6,090	3,794	9,884	1,966	4,916	6,882	3,776	2,157	5,933	641	61	702	1,597	1,076	2,673	326	40	366
Urban	305	146	451	422	113	535	158	108	266	99	43	142	65	51	116	49	17	66
Rural—87	706	461	1,167	191	515	706	367	263	630	92	2	94	129	133	262	38	2	40
Rural—88	1,234	839	2,073	373	861	1,234	852	495	1,347	191	7	200	338	237	575	111	5	116
Rural—89	1,478	861	2,339	319	1,159	1,478	832	466	1,300	172	16	188	354	256	610	77	7	84
Rural—90	967	613	1,580	151	816	967	645	387	1,032	109	24	133	253	202	455	44	9	53
Rural—91	1,705	1,020	2,725	140	1,565	1,705	1,080	546	1,626	77	12	89	523	258	781	56	17	73
Urban—35	305	146	451	192	113	305	158	108	266	99	43	142	65	51	116	49	17	66
Total	7,583	4,781	12,364	3,237	4,346	7,583	4,410	3,440	7,850	1,914	574	2,488	2,098	2,035	4,133	880	289	1,169
Rural	5,793	3,846	9,639	2,367	3,426	5,793	3,408	2,693	6,101	1,432	429	1,861	1,709	1,550	3,259	714	194	995
Urban	1,790	915	2,705	870	920	1,790	1,002	747	1,749	482	145	627	389	485	872	166	95	263
Rural—87	2,273	1,360	3,633	599	1,674	2,273	1,322	1,029	2,351	444	92	536	703	645	1,348	239	63	302
Rural—88	1,191	877	2,068	547	1,191	1,738	784	738	1,522	406	116	522	390	257	647	237	30	267
Rural—89	337	168	505	177	64	241	129	129	258	125	51	176	79	79	158	58	37	95
Rural—90	1,347	993	2,340	596	1,751	2,347	800	580	1,380	265	51	316	387	393	780	98	32	1,178
Rural—91	645	468	1,113	352	293	645	343	217	560	192	119	311	150	176	327	82	32	114
Urban—35	1,790	915	2,705	870	920	1,790	1,002	747	1,749	482	145	627	389	485	872	166	95	263

TABLE 1.16—CIV—AGE AND LITERACY—contd.

District and Tract	Age 65—74						Age 75 and over						Age not stated					
	Total			Literate			Total			Literate			Total			Literate		
	Males Females			Males Females			Males Females			Males Females			Males Females			Males Females		
	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
JALPAIGURI DISTRICT																		
Total	662	353	190	17	472	336	214	125	86	6	128	119	6	5	1	1	5	4
Rural	632	332	166	6	466	326	207	119	81	2	126	117	6	5	1	1	5	4
Urban	30	21	24	11	6	10	7	6	5	4	2	2	..	..	..	..	..	..
Rural—87	95	34	12	1	83	33	31	19	8	..	23	19	1	..	..	1	1	..
Rural—88	118	94	75	2	43	92	57	29	36	..	21	29	2	4	..	1	2	3
Rural—89	96	90	20	2	76	88	40	24	..	..	23	24	2	1	1	..	1	..
Rural—90	111	55	28	..	83	55	45	23	12	..	33	23	1	..	..	..	..	..
Rural—91	212	59	31	1	181	58	34	24	8	2	26	22	..	..	..	..	..	..
Urban—35	30	21	24	11	6	10	7	6	5	4	2	2	..	..	..	..	..	..
DISPLACED POPULATION																		
Total	847	891	411	114	436	777	401	364	168	34	233	330	56	70	1	..	55	70
Rural	653	665	306	77	347	588	294	286	101	16	183	270	56	54	1	..	55	54
Urban	194	226	105	37	89	189	107	78	67	18	40	60	..	16	..	..	..	16
Rural—87	248	313	93	10	155	303	154	156	92	2	122	154	8	3	1	..	7	3
Rural—88	178	125	99	10	79	115	56	44	30	2	26	42	34	7	..	..	34	7
Rural—89	38	23	35	5	3	18	12	14	7	..	5	14	1	..	..	..	1	..
Rural—90	124	116	45	24	79	92	51	53	18	2	33	51	13	44	..	..	13	44
Rural—91	65	88	34	28	31	60	21	19	14	10	7	9	..	..	..	..	..	..
Urban—35	194	226	105	37	89	189	107	78	67	18	40	60	..	16	..	..	..	16

TABLE 1.16—CIV—AGE AND LITERACY—concl'd.

Abstract classifying those 'Able to Read' in Age Groups

(In Table CII these 'Able to Read' have been included in the column for Illiterate)

District and Tract	Total		Age 5—9		Age 10—14		Age 15—24		Age 25—34		Age 35—44		Age 45—54		Age 55—64		Age 65—74		Age 75 and over		Age not stated		
	Persons	Males	Females	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
JALPAIGURI DISTRICT																							
Total	:	895	698	84	41	103	46	129	46	141	28	112	25	69	10	46	1	9	..	5	..	..	..
Rural	:	890	698	84	39	103	45	129	46	141	28	112	24	69	9	46	1	9	..	5	..	..	..
Urban	:	5	..	..	2	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..
Rural—87	:	145	136	13	3	15	..	30	4	36	2	23	..	11	1	4	..	2	..	2	..	..	..
Rural—88	:	185	161	24	26	9	30	24	5	27	4	23	2	19	1	10	..	..	..	2	..	..	..
Rural—89	:	121	86	35	9	13	21	24	6	24	5	11	..	2	3	3	..	..	..	..	..	..	..
Rural—90	:	286	203	83	16	24	13	41	26	42	11	38	10	24	4	14	1	3	..	1	..	..	..
Rural—91	:	153	112	41	20	6	21	10	5	12	6	17	12	13	4	15	..	4	..	..	..	..	..
Urban—35	:	5	..	..	2	..	1	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..
DISPLACED POPULATION																							
Total	:	3,124	1,832	416	145	179	133	272	326	269	287	291	188	304	108	59	56	37	38	5	8	..	3
Rural	:	1,782	1,064	66	89	94	60	191	118	238	143	200	149	223	77	35	39	16	32	1	8	..	3
Urban	:	1,342	768	350	56	85	73	81	208	31	144	91	39	81	31	24	17	21	6	4	..	..	..
Rural—87	:	408	205	13	27	27	11	42	36	45	35	32	26	30	21	9	19	6	18	1	7	..	3
Rural—88	:	286	199	32	29	38	24	44	18	35	8	25	7	15	..	7	1	3	..	..	..	..	..
Rural—89	:	29	15	4	2	3	2	..	..	2	..	3	4	1	3	1	..	2	1	..	1	..	..
Rural—90	:	970	602	10	12	22	18	87	60	151	94	134	112	175	51	17	13	6	8	..	..	..	..
Rural—91	:	89	43	7	19	4	5	18	4	5	6	6	..	2	2	1	6	..	4	..	..	..	..
Urban—35	:	1,342	768	350	56	85	73	81	208	31	144	91	39	81	31	24	17	21	6	4	..	..	..

**TABLE—1.17—CV—SINGLE YEAR AGE RETURNS
SAMPLE POPULATION**

Age Returns	Males	Females	Age Returns	Males	Females	Age Returns	Males	Females	Age Returns	Males	Females
All ages	Total : 44,354 Rural : 42,042 Urban : 2,312	37,042 35,466 1,576	12	Total : 1,382 Rural : 1,334 Urban : 48	1,107 1,049 58	25	Total : 1,491 Rural : 1,380 Urban : 111	1,216 1,159 57	38	Total : 621 Rural : 593 Urban : 28	473 463 10
0	Total : 1,009 Rural : 948 Urban : 61	1,242 1,186 56	13	Total : 626 Rural : 593 Urban : 33	647 620 27	26	Total : 671 Rural : 630 Urban : 41	616 590 26	39	Total : 324 Rural : 313 Urban : 11	182 175 7
1	Total : 881 Rural : 804 Urban : 47	766 723 43	14	Total : 1,066 Rural : 1,001 Urban : 65	911 875 36	27	Total : 577 Rural : 546 Urban : 31	478 453 25	40	Total : 1,429 Rural : 1,335 Urban : 94	888 843 45
2	Total : 1,080 Rural : 1,006 Urban : 54	1,216 1,158 58	15	Total : 1,037 Rural : 982 Urban : 55	764 720 44	28	Total : 1,024 Rural : 945 Urban : 79	840 823 17	41	Total : 358 Rural : 348 Urban : 10	195 193 2
3	Total : 987 Rural : 943 Urban : 54	1,177 1,127 50	16	Total : 931 Rural : 861 Urban : 70	828 783 45	29	Total : 537 Rural : 527 Urban : 10	334 327 7	42	Total : 478 Rural : 457 Urban : 21	358 342 16
4	Total : 1,051 Rural : 1,010 Urban : 41	1,217 1,177 40	17	Total : 545 Rural : 517 Urban : 28	602 571 31	30	Total : 1,462 Rural : 1,349 Urban : 113	1,321 1,261 60	43	Total : 333 Rural : 322 Urban : 11	153 151 2
5	Total : 1,119 Rural : 1,067 Urban : 52	1,071 1,024 47	18	Total : 1,048 Rural : 968 Urban : 80	1,070 1,027 43	31	Total : 370 Rural : 347 Urban : 23	305 300 5	44	Total : 385 Rural : 378 Urban : 7	189 188 1
6	Total : 1,036 Rural : 1,002 Urban : 34	947 917 30	19	Total : 496 Rural : 472 Urban : 24	594 574 20	32	Total : 970 Rural : 909 Urban : 61	599 578 21	45	Total : 986 Rural : 929 Urban : 57	557 534 23
7	Total : 1,022 Rural : 982 Urban : 40	1,150 1,098 52	20	Total : 1,126 Rural : 1,060 Urban : 66	1,245 1,188 57	33	Total : 493 Rural : 477 Urban : 16	271 263 8	46	Total : 252 Rural : 242 Urban : 10	131 125 6
8	Total : 1,210 Rural : 1,165 Urban : 45	1,172 1,128 44	21	Total : 501 Rural : 464 Urban : 37	505 487 18	34	Total : 621 Rural : 599 Urban : 22	249 235 14	47	Total : 237 Rural : 227 Urban : 10	144 140 4
9	Total : 784 Rural : 755 Urban : 29	800 770 30	22	Total : 959 Rural : 871 Urban : 88	928 884 44	35	Total : 1,460 Rural : 1,373 Urban : 82	886 848 38	48	Total : 468 Rural : 452 Urban : 16	224 210 14
10	Total : 1,454 Rural : 1,391 Urban : 63	1,118 1,055 63	23	Total : 497 Rural : 453 Urban : 44	479 465 14	36	Total : 596 Rural : 568 Urban : 28	356 338 18	49	Total : 233 Rural : 226 Urban : 7	145 141 4
11	Total : 722 Rural : 684 Urban : 38	688 648 40	24	Total : 736 Rural : 692 Urban : 44	754 740 14	37	Total : 411 Rural : 398 Urban : 13	260 253 7	50	Total : 778 Rural : 740 Urban : 38	598 562 36

JALPAIGURI DISTRICT

TABLE 1.17—CV—SINGLE YEAR AGE RETURNS—concl'd.
SAMPLE POPULATION

Age Returns	Males			Females			Age Returns	Males			Females			Age Returns	Males			Females																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
	Total	Rural	Urban	Total	Rural	Urban		Total	Rural	Urban	Total	Rural	Urban		Total	Rural	Urban	Total	Rural	Urban																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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51	.	{	Total	228	107	120	48	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural	Urban	{	Total	Rural

TABLE 1.18—CI—HOUSEHOLD (SIZE AND COMPOSITION)

District and Tract	SAMPLE HOUSEHOLDS																																	
	Total Household Population				Total No. of Sample Households	Sample of Household Population				Size of Households																								
	Persons		Males			Females		Small 3 members or less	Medium 4-6 members	Large 7-9 members	Very large 10 members or above	Family Structure		Heads of households																				
	Persons	Females	Persons	Females		Persons	Females					Persons Number	Persons Number		Persons Number	Persons Number																		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																
JALPAIGURI DISTRICT																																		
Total	195,695	900,700	491,237	409,463	214	1,093	596	497	55	126	105	505	42	320	12	142	199	15																
Rural	185,673	837,857	454,803	383,054	201	1,000	544	456	54	125	99	475	39	297	9	103	187	14																
Urban	10,022	62,843	36,434	26,409	13	93	52	41	1	1	6	30	3	23	3	39	12	1																
Rural-87	25,014	125,627	68,080	57,547	23	124	74	60	2	4	13	61	5	37	3	32	22	1																
Rural-88	43,053	197,702	108,094	89,608	51	261	144	117	12	20	25	121	11	82	3	38	47	4																
Rural-89	40,890	178,571	97,091	81,480	47	236	125	111	13	37	21	98	12	91	1	10	46	1																
Rural-90	29,534	142,045	76,432	65,613	35	175	91	84	10	25	18	90	6	49	1	11	31	4																
Rural-91	47,182	193,912	105,106	88,806	45	194	110	84	17	39	22	105	5	38	1	12	41	4																
Urban-35	10,022	62,843	36,434	26,409	13	93	52	41	1	1	6	30	3	23	3	39	12	1																
Composition of Household																																		
Family Structure				Civil Condition																														
Wives of heads of households	Sons of heads of households	Daughters of heads of households	Other male relations of heads of households	Other female relations of heads of households	Infants, non-adults and adults in households										Unmarried					Married					Widowed					Divorced				
					Infants (age less than one year)		Non-adults (age 1-20 years)		Adults (age 21 years and over)		Males		Females		Males		Females		Males		Females		Males		Females		Males		Females					
					Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females	Persons	Females				
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38																
Total	155	246	194	136	126	19	267	240	310	240	340	232	239	228	17	37																		
Rural	146	225	182	124	107	18	239	223	287	219	310	213	218	208	16	35																		
Urban	9	21	12	12	19	1	28	17	23	21	30	19	21	20	1	2																		
Rural-87	18	32	22	19	17	2	34	34	38	26	40	26	34	33		1																		
Rural-88	34	54	33	38	45	3	78	61	63	54	87	50	48	47		20																		
Rural-89	41	56	53	23	15	2	54	52	69	53	70	61	50	44		6																		
Rural-90	25	40	37	19	17	5	44	48	42	35	52	36	38	44		1																		
Rural-91	28	43	37	25	13	6	29	28	75	51	61	40	48	40		1																		
Urban-35	9	21	12	12	19	1	28	17	23	21	30	19	21	20		1																		

TABLE 1.19—DI—LANGUAGES—(i) MOTHER TONGUE—contd.

Language	Males	Females	Language	Males	Females	Language	Males	Females	Language	Males	Females
17 <i>English</i>			21 <i>Punjabi</i>			24 <i>Pashtu</i>			31 <i>Rabha</i>		
Total	120	93	Total		20	Rural—89		2	Rural—90	2	209
Rural	120	93	Rural		18						
Urban	..	..	Urban		2						
Rural—87	7	..	Rural—87		3	25 <i>Italian</i>			32 <i>Mangar</i>		
Rural—88	28	21	Rural—88		24	Rural—89		..	Rural—90	1	..
Rural—89	66	62	Rural—89		..						
Rural—90	19	10	Urban—35		19	26 <i>German</i>			33 <i>Rajkanshi</i>		
18 <i>Garo</i>						Rural—88		1	Rural—90	2	..
Rural—90	33	143									
19 <i>Chinese</i>			22 <i>Rajasthan</i>			27 <i>Irish</i>			34 <i>Bute</i>		
Total	91	69	Total		35				Rural—90	1	..
Rural	90	69	Rural		4	28 <i>Lefcha</i>					
Urban	1	..	Urban		31	Rural—89		1			
Rural—77	2	..	Rural—88		4						
Rural—88	31	..									
Rural—89	55	69	Urban—35		31				35 <i>Dogra</i>		
Rural—90	2	..				Rural—89		22	Rural—87	1	..
Urban—35	1	..									
20 <i>Marwari</i>			23 <i>Gujarati</i>			29 <i>Sanskrit</i>			36 <i>Bani</i>		
Total	88	38	Total		9				Rural—90	21	..
Rural	75	38	Rural		9						
Urban	13	..	Urban		..						
Rural—88	8	..	Rural—89		9						
Rural—89	67	38							37 <i>Tulu</i>		
Urban—35	13	..	Urban—35		..				Rural—91	157	157

TABLE 1.19—DI—LANGUAGE—PART—I—MOTHER TONGUE—concl'd.

Fly Leaf Abstract

Language—Tribal

(The term 'tribal' denotes a group of languages where the enumerator could not make out what the language exactly was but was certain that the speaker belonged to a 'tribe'.)

Mother tongue, District and Tract												Total		
												Persons	Males	Females
JALPAIGURI DISTRICT														
Tribal														
Total	.	.	.	.	.	.	.	.	.	.	.	172,579	92,451	80,128
Rural	.	.	.	.	.	.	.	.	.	.	.	172,504	92,410	80,094
Urban	.	.	.	.	.	.	.	.	.	.	.	75	41	34
Rural—87														
Rural—88	.	.	.	.	.	.	.	.	.	.	.	8,384	4,479	3,905
Rural—89	.	.	.	.	.	.	.	.	.	.	.	34,386	18,549	15,837
Rural—90	.	.	.	.	.	.	.	.	.	.	.	53,281	27,889	25,392
Rural—91	.	.	.	.	.	.	.	.	.	.	.	30,274	15,796	14,478
	.	.	.	.	.	.	.	.	.	.	.	46,179	25,697	20,482
Urban—35														
	.	.	.	.	.	.	.	.	.	.	.	75	41	34

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES												
			Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	Oraon	Assamese	Rajasthani	Mundari	Santali	Punjabi	Sadana
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
JALPAIGURI DISTRICT															
ALL LANGUAGES															
Total	741,959	76,231	21,713	44,230	3	1,463	479	4,792	26	20	6	1	4	1	493
Rural	675,889	71,874	22,045	42,509	3	1,457	449	4,768	26	19	..	..	4	1	493
Urban	66,070	4,357	2,658	1,621	..	6	30	24	..	1	6	1	..	..	..
1 Bengali															
Total	522,891	27,046	..	23,239	3	243	133	3,355	26	9	..	..	..	..	38
Rural	470,230	25,825	..	21,877	3	237	103	3,333	26	8	..	..	..	..	38
Urban	52,661	1,421	..	1,362	..	6	30	22	..	1	..	..	..	..	..
Rural—87	111,379	379	..	375	3	..	..	1	..	..	..	..	..	..	..
Rural—88	138,281	1,480	..	1,250	..	54	4	4	..	..	..	..	..	..	38
Rural—89	56,765	6,382	..	6,192	..	161	..	12	26	1	..	..	..	..	..
Rural—90	74,914	4,240	..	4,208	..	15	..	10	..	7	..	..	..	..	..
Rural—91	88,891	13,264	..	9,852	..	7	99	3,306	..	..	..	..	..	..	..
Urban—35	52,661	1,421	..	1,362	..	6	30	22	..	1	..	..	..	..	..
2 Hindi															
Total	127,579	21,647	18,657	..	..	1,186	339	1,433	..	11	6	1	..	..	14
Rural	115,547	19,398	16,327	..	..	1,186	339	1,431	..	11	..	..	..	..	14
Urban	12,032	2,249	2,330	..	..	..	..	2	..	..	6	1	..	..	..
Rural—87	4,491	624	618	..	..	4	1	1	..	..	..	..	..	..	..
Rural—88	18,635	1,780	1,670	..	..	77	4	15	..	..	..	..	..	..	14
Rural—89	44,630	3,785	3,475	..	..	270	..	40	..	..	..	..	..	..	..
Rural—90	16,060	3,019	2,984	..	..	21	..	3	..	11	..	..	..	..	..
Rural—91	31,731	10,100	7,880	..	..	814	334	1,372	..	..	..	..	..	..	..
Urban—35	12,032	2,339	2,330	..	..	..	..	2	..	..	6	1	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES													
			Oraon Assamese Rajasthani Mundari Santali Funjabi Sadana													
			Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	Oraon	Assamese	Rajasthani	Mundari	Santali	Funjabi	Sadana	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
3 Santali																
Total	11,227	2,848	947	1,901	..	..	..	..	..	..	..	..	..	..	..	..
Rural	11,226	2,847	946	1,901	..	..	..	..	..	..	..	..	..	..	..	..
Urban	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	32	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	729	122	121	1	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	170	66	12	54	..	..	..	..	..	..	..	..	..	..	..	..
Rural—90	5,992	597	339	258	..	..	..	..	..	..	..	..	..	..	..	..
Rural—91	4,303	2,059	471	1,588	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..
4 Nepali																
Total	45,761	13,590	1,677	11,442	..	..	4	..	..	..	..	..	..	1	496	..
Rural	45,059	13,251	1,587	11,223	..	..	4	..	..	..	..	..	..	1	438	..
Urban	702	309	90	219	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	976	218	88	130	..	..	..	..	..	..	..	..	..	..	496	..
Rural—88	5,455	1,565	189	936	..	..	4	..	..	..	..	..	..	1	..	..
Rural—89	11,093	3,404	173	3,230	..	..	..	..	..	..	..	..	..	..	..	..
Rural—90	5,500	2,001	254	1,747	..	..	..	..	..	..	..	..	..	..	..	..
Rural—91	22,035	6,063	883	5,180	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	702	309	90	219	..	..	..	..	..	..	..	..	..	..	..	..
5 Oraon																
Total	11,761	2,964	674	2,273	..	17	..	..	..	..	..	..	..	..	..	..
Rural	11,743	2,953	663	2,273	..	17	..	..	..	..	..	..	..	..	..	..
Urban	18	11	11	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	4,896	1,702	331	1,354	..	17	..	..	..	..	..	..	..	..	..	..
Rural—90	6,847	1,251	332	919	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	18	11	11	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES															
			Oraon Assamese Rajasthani Mundari Santali Punjabi Sadana															
			Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	10	11	12	13	14	15	16			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
6 Oriya																		
Total	9,225	3,006	1,110	1,874	..	13	..	..	..	..	..	..	4	..	5
Rural	9,059	2,956	1,061	1,873	..	13	..	..	..	..	..	..	4	..	5
Urban	166	50	49	1	..	..	..	..	..	..	..	..	..	..	..
Rural—87	114	40	23	17	..	..	..	..	..	..	..	..	4	..	5
Rural—88	796	159	79	58	..	13	..	..	..	..	..	..	..	..	..
Rural—89	4,101	1,071	376	695	..	..	..	..	..	..	..	..	..	..	..
Rural—90	502	111	30	81	..	..	..	..	..	..	..	..	..	..	..
Rural—91	3,546	1,575	553	1,022	..	..	..	..	..	..	..	..	..	..	..
Urban—35	166	50	49	1	..	..	..	..	..	..	..	..	..	..	..
7 Urdu																		
Total	2,511	1,101	339	760	..	..	..	2	..	..	..	..	..	..	..
Rural	2,401	1,030	270	758	..	..	..	2	..	..	..	..	..	..	..
Urban	110	71	69	2	..	..	..	..	..	..	..	..	..	..	..
Rural—87	32	11	1	10	..	..	..	..	..	..	..	..	..	..	..
Rural—88	361	6	6	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	986	513	26	487	..	..	..	..	..	..	..	..	..	..	..
Rural—90	96	43	43	..	..	..	..	2	..	..	..	..	..	..	..
Rural—91	956	457	194	261	..	..	..	..	..	..	..	..	..	..	..
Urban—35	110	71	69	2	..	..	..	..	..	..	..	..	..	..	..
8 Assamese																		
Total	1,805	614	330	281	..	3	..	..	..	..	..	..	..	..	..
Rural	1,574	512	230	279	..	3	..	..	..	..	..	..	..	..	..
Urban	231	102	100	2	..	..	..	..	..	..	..	..	..	..	..
Rural—87	46	22	22	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	197	102	32	67	..	3	..	..	..	..	..	..	..	..	..
Rural—89	248	87	51	36	..	..	..	..	..	..	..	..	..	..	..
Rural—90	426	152	106	46	..	..	..	..	..	..	..	..	..	..	..
Rural—91	657	149	19	130	..	..	..	..	..	..	..	..	..	..	..
Urban—35	231	102	100	2	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES															
			Bengali Hindi Pashto Urdu Oriya Nepali Oraon Assamese Rajasthani Mundari Santali Punjabi Sadana															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
9 Tamil																		
Total			565	389	176													
Rural		1,418	562	389	173													
Urban		18	3		3													
Rural—87		46	15	1	14													
Rural—88																		
Rural—89		154	62	21	41													
Rural—91		1,200	485	367	118													
Urban—35		18	3		3													
10 Meoh																		
Rural—90		1,058	305	140	165													
11 Garumukhi																		
Total			547	171	376													
Rural		1,282	544	169	375													
Urban		4	3	2	1													
Rural—87		68																
Rural—89		277	86	5	81													
Rural—91		983	458	164	294													
Urban—35		4	3	2	1													
12 Kharia																		
Total		1,203	340		340													
Rural		1,203	340		340													
Urban																		
Rural—89		1,200	340		340													
Rural—90		3																

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES												
			Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	Oraon	Assamese	Rajasthani	Mundan	Santali	Punjabi	Sadana
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
13 Marathi															
Total	519	144	4	140	..	..	..	..	..	..	..	..	..	..	..
Rural	504	144	4	140	..	..	..	..	..	..	..	..	..	..	..
Urban	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	316	130	4	126	..	..	..	..	..	..	..	..	..	..	..
Rural—88	151	4	..	4	..	..	..	..	..	..	..	..	..	..	..
Rural—89	37	10	..	10	..	..	..	..	..	..	..	..	..	..	..
Urban—35	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..
14 Mundari															
Total	355	177	109	68	..	..	..	..	..	..	..	..	..	..	..
Rural	353	175	109	66	..	..	..	..	..	..	..	..	..	..	..
Urban	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..
Rural—90	353	175	109	66	..	..	..	..	..	..	..	..	..	..	..
Urban—35	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..
15 Bhotia															
Total	318	54	2	52	..	..	..	..	..	..	..	..	..	..	..
Rural	318	54	2	52	..	..	..	..	..	..	..	..	..	..	..
Urban	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	103	52	..	52	..	..	..	..	..	..	..	..	..	..	..
Rural—90	215	2	2	..	..	..	..	..	..	..	..	..	..	..	..
16 Telugu															
Total	287	107	26	81	..	..	..	..	..	..	..	..	..	..	..
Rural	283	105	25	80	..	..	..	..	..	..	..	..	..	..	..
Urban	4	2	1	1	..	..	..	..	..	..	..	..	..	..	..
Rural—88	117	17	7	10	..	..	..	..	..	..	..	..	..	..	..
Rural—89	134	56	18	38	..	..	..	..	..	..	..	..	..	..	..
Rural—90	32	32	..	32	..	..	..	..	..	..	..	..	..	..	..
Urban—35	4	2	1	1	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES															
			Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	Oraon	Assamese	Rajasthani	Mundari	Santali	Punjabi	Sadana			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
17 English																		
Total	213	104	20	82	..	..	2	..	..	..	..	..	..	..	..	..
Rural	213	104	20	82	..	..	2	..	..	..	..	..	..	..	..	..
Urban	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	7	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	49	25	11	14	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	128	64	1	61	..	..	2	..	..	..	..	..	..	..	..	..
Rural—90	29	13	6	7	..	..	..	..	..	..	..	..	..	..	..	..
18 Garo																		
Rural—90	176	25	25	..	..	..	..	..	..	..	..	..	..	..	..	..
19 Chinese																		
Total	160	71	13	56	..	..	..	2	..	..	..	..	..	..	..	..
Rural	159	71	13	56	..	..	..	2	..	..	..	..	..	..	..	..
Urban	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	2	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	31	13	13	..	..	..	..	2	..	..	..	..	..	..	..	..
Rural—89	124	56	..	54	..	..	..	..	..	..	..	..	..	..	..	..
Rural—90	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 Marwari																		
Total	126	59	7	52	..	..	..	..	..	..	..	..	..	..	..	..
Rural	113	59	7	52	..	..	..	..	..	..	..	..	..	..	..	..
Urban	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	8	..	7	52	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	105	59	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES															
			Oraon Aseamese Rajasthani Mundari Santali Punjabi Sadana															
			Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	10	11	12	13	14	15	16			
21 Punjabi	2	3																
Total	89	23	2	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural	68	19	2	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban	21	10	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	29	9	..	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	24	5	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	15	5	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	21	10	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
22 Rajasthani																		
Total	68	31	15	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural	4	4	15	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban	64	27	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—88	4	4	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	64	27	15	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..
23 Gujarati																		
Total	29	18	8	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural	22	12	4	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban	7	6	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rural—89	22	12	8	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Urban—35	7	6	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24 Pashto																		
Rural—89	4	3	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..
25 Italian																		
Rural—89	2	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—contd.'

	Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES												
				Bengali	Hindi	Pashto	Urdu	Oriya	Nepali	Oraon	Assamese	Rajasthani	Mundari	Santali	Punjabi	Sadana
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
26	<i>German</i>															
	Rural—88	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..
27	<i>Irish</i>															
	Rural—89	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
28	<i>Lepcha</i>															
	Rural—89	23	11	1	10	..	..	..	..	..	..	..	..	..	..	..
29	<i>Sadana</i>															
	Rural—89	1,298	839	41	798	..	..	..	..	..	..	..	..	..	..	..
30	<i>Nagpuri</i>															
	Rural—89	18	8	..	8	..	..	..	..	..	..	..	..	..	..	..
31	<i>Rabha</i>															
	Rural—90	211	2	2	..	..	..	..	..	..	..	..	..	..	..	..
32	<i>Mangar</i>															
	Rural—90	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..
33	<i>Rajbanshi</i>															
	Rural—90	2	2	2	..	..	..	..	..	..	..	..	..	..	..	..
34	<i>Baile</i>															
	Rural—90	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.20—DI—LANGUAGES—(ii) BILINGUALISM—concl'd.

Mother Tongue	Total Speakers	Total persons returned as speaking a language subsidiary to that shown in column 1	SUBSIDIARY LANGUAGES												
			Bengali	Hindi	Fashto	Urdu	Oriya	Nepali	Oraon	Assamese	Rajasthani	Munda	i Santali	Punjabi	Sadana
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
35 Dogra															
Rural—87	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
36 Bara															
Rural—90	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..
37 Toto															
Rural—91	314	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Fly Leaf Abstract
Language—Tribal*

Total persons returned as speaking a language subsidiary to that shown in column 1

Total Speakers

Mother T. n.ue.
District and Tract

JALPAIGURI DISTRICT

Tribal	2	3	SUBSIDIARY LANGUAGES					
			Hindi	Bengali	Nepali	Oraon	Oriya	
Total			37,175	15,396	..	7	8	
Rural	172,579	52,617	37,174	15,338	22	19	5	
Urban	172,504	52,558	1	58	22	19	5	
Rural—87	8,384	4,728	2,747	1,981	..	..	..
Rural—88	34,386	5,756	3,175	2,581	..	..	..
Rural—89	53,281	19,006	16,871	2,089	22	19	5	
Rural—90	30,274	6,238	4,261	1,977	..	..	..
Rural—91	46,179	16,830	10,120	6,710	..	..	..
Urban—35	75	59	1	58	..	..	..

*The term 'tribal' denotes a group of languages where the enumerator could not make out what the language exactly was but was certain that the speaker belonged to a 'tribe'.

TABLE 1.21—DII—RELIGION

District and Tract	Total Population						Hindus		Sikhs		Jains		Buddhists		Zoroastrians			
	Persons		Males		Females		Males		Females		Males		Females		Males		Females	
	2	3	4	5	6	7	8	9	10	11	12	13	14					
JALPAIGURI DISTRICT																		
Total	.	914,538	501,090	413,448	422,670	347,208	912	161	304	73	3,508	3,032	..	..	..	..	..
Rural	.	848,393	461,705	386,688	384,652	321,056	867	157	245	47	3,485	3,027	..	..	..	..	..
Urban	.	66,145	39,385	26,760	38,018	26,152	45	4	59	26	23	5	..	..	..	..	..
Rural—87	.	125,923	68,348	57,575	54,503	46,202	63	2	..	..	13	7	..	..	..	..	..
Rural—88	.	199,225	109,359	89,866	92,137	74,314	11	7	39	18	110	71	..	..	..	..	..
Rural—89	.	179,735	98,094	81,641	86,896	71,626	75	28	11	3	680	779	..	..	..	..	..
Rural—90	.	142,715	76,864	65,851	59,765	48,855	2	1	40	21	493	418	..	..	..	..	..
Rural—91	.	200,795	109,040	91,755	91,351	80,059	716	119	155	5	2,189	1,752	..	..	..	..	..
Urban—35	.	66,145	39,385	26,760	38,018	26,152	45	4	59	26	23	5	..	..	..	..	..
OTHER RELIGIONS																		
		Muslims						Christians		Jews		Tribal		Non-Tribal		Religion not stated		
		Males		Females		Males		Females		Males		Females		Males		Females		
Total	.	50,116	38,983	13,595	11,886	..	..	9,985	12,016	..	..	..	..	..	..	26	89
Rural	.	48,985	38,478	13,486	11,818	..	..	9,985	12,016	..	..	..	..	..	..	..	89
Urban	.	1,131	505	109	68	..	..	..	..	..	..	..	..	..	..	..	..
Rural—87	.	13,177	11,034	589	330	..	..	3	..	..	..	..	..	..	..	..	89
Rural—88	.	15,218	12,482	1,342	984	..	..	502	1,901	..	..	..	..	..	..	..	..
Rural—89	.	8,116	6,355	2,316	2,697	..	..	8,815	153	..	..	..	..	..	..	..	..
Rural—90	.	3,889	2,989	3,860	4,218	..	..	665	9,349	..	..	..	..	..	..	..	..
Rural—91	.	8,585	5,618	5,379	3,589	..	..	..	613	..	..	..	..	..	..	..	..
Urban—35	.	1,131	505	109	68	..	..	..	..	..	..	..	..	..	..	..	..

TABLE 1.22—DIII—(i)—SCHEDULED CASTES AND SCHEDULED TRIBES

District and Tract	Scheduled Castes			Scheduled Tribes		
	Persons	Males	Females	Persons	Males	Females
	2	3	4	5	6	7
JALPAIGURI DISTRICT						
Total	235,203	127,566	107,637	189,192	102,489	86,703
Rural	229,385	124,053	105,332	188,921	102,270	86,651
Urban	5,818	3,513	2,305	271	219	52
Rural—87	37,370	20,136	17,234	7,663	3,993	3,670
Rural—88	87,453	47,797	39,656	26,296	14,208	12,088
Rural—89	29,698	15,279	14,419	63,519	35,229	28,290
Rural—90	39,612	22,244	17,368	43,602	23,134	20,468
Rural—91	35,252	18,597	16,655	47,841	25,706	22,135
Urban—35	5,818	3,513	2,305	271	219	52

TABLE 1.23—DIII—(ii)—NON-BACKWARD CLASSES AND CLASSES WHICH ARE NEITHER SCHEDULED NOR NON-BACKWARD

District and Tract	Non-Backward Classes			Classes which are neither Scheduled nor Non-Backward		
	Persons	Males	Females	Persons	Males	Females
	2	3	4	5	6	7
JALPAIGURI DISTRICT						
Total	388,411	217,861	170,550	101,293	53,082	48,211
Rural	330,650	182,969	147,681	98,998	52,321	46,677
Urban	57,761	34,892	22,869	2,295	761	1,534
Rural—87	75,125	40,963	34,162	5,765	3,256	2,509
Rural—88	70,909	38,691	32,218	14,372	8,663	5,709
Rural—89	60,185	33,873	26,312	26,313	13,701	12,612
Rural—90	47,078	25,673	21,405	12,423	5,813	6,610
Rural—91	77,353	43,769	33,584	40,125	20,888	19,237
Urban—35	57,761	34,892	22,869	2,295	761	1,534

TABLE 1.24—DIII—(iii)—ABSTRACT OF ANGLO-INDIANS

District and Tract	Anglo-Indians		
	Persons	Males	Females
	2	3	4
JALPAIGURI DISTRICT			
Total	439	92	347
Rural	439	92	347
Urban	..	..	..
Rural—88	195	..	195
Rural—89	20	12	8
Rural—91	224	80	144
Urban—35	..	..	..

TABLE 1.25—DIV—MIGRANTS

District, State or Country where born	Population of District				District, State or Country where born	Population of District			
	Persons	Males	Females			Persons	Males	Females	
I	2	3	4		1	2	3	4	
JALPAIGURI DISTRICT									
Total Population	914,538	501,090	413,448			156,520	88,502	68,018	
A—Born in India									
I Born in West Bengal	757,794	412,446	345,348						
(i) Jalpaiguri	635,696	337,585	298,111						
	609,349	323,214	286,135						
Rural—87	90,121	48,733	41,388		(i) Afghanistan	16	15	1	
Rural—88	149,543	80,194	69,349		Rural—88	1	..	1	
Rural—89	131,429	74,568	56,861		Urban—35	15	15	..	
Rural—90	97,309	50,598	46,711						
Rural—91	125,025	61,516	63,509						
Urban—35	15,922	7,605	8,317		(ii) Burma	85	40	45	
					Rural—87	46	17	29	
(ii) Other Districts	26,347	14,371	11,976		Rural—88	5	3	2	
Rural—87	1,313	597	716		Rural—89	16	9	7	
Rural—88	2,845	1,649	1,196		Rural—90	..	..	..
Rural—89	3,048	1,228	1,820		Rural—91	2	..	2	
Rural—90	5,704	3,046	2,658		Urban—35	16	11	5	
Rural—91	10,470	6,280	4,190						
Urban—35	2,967	1,571	1,396		(iii) Ceylon	..	..	..
II States in India beyond West Bengal									
(i) State adjacent to West Bengal	104,193	63,938	40,255		(iv) China	111	96	15	
Rural—87	4,683	2,772	1,911		Rural—87	1	1	..	
Rural—88	19,215	12,004	7,211		Rural—88	23	20	3	
Rural—89	27,632	12,857	14,775		Rural—89	55	43	12	
Rural—90	9,767	5,389	4,375		Rural—90	2	2	..	
Rural—91	32,541	21,877	10,664		Rural—91	27	27	..	
Urban—35	10,355	9,039	1,316		Urban—35	3	3	..	
(ii) Other States	17,905	10,923	6,982		(v) Nepal	22,621	14,381	8,240	
Rural—87	450	362	88		Rural—87	534	406	134	
Rural—88	1,682	982	700		Rural—88	3,937	2,277	1,660	
Rural—89	4,030	2,331	1,699		Rural—89	4,588	2,196	2,392	
Rural—90	6,326	3,761	2,565		Rural—90	4,299	2,855	1,444	
Rural—91	3,695	2,198	1,497		Rural—91	8,659	6,250	2,409	
Urban—35	1,722	1,289	433		Urban—35	604	403	201	
(iii) Elsewhere in India	..	..	..			

TABLE 1.25—DIV—MIGRANTS—contd.

District, State or Country where born	Persons	Males	Females	District, State or Country where born	Persons	Males	Females
1	2	3	4	1	2	3	4
B—Countries in Asia beyond India (including U.S.S.R.)—concl.							
(vi) Pakistan	132,358	73,068	59,290	D—Countries in Africa	2	2	..
Rural—87	28,763	15,461	13,302	(i) Africa	2	2	..
Rural—88	21,772	12,128	9,644	Rural—87	..	..	..
Rural—89	8,406	4,594	3,812	Rural—88	1	1	..
Rural—90	19,074	11,060	8,014	Rural—89	1	1	..
Rural—91	19,802	10,376	9,426	Rural—90	..	..	..
Urban—35	34,541	19,449	15,092	Rural—91	..	..	..
				Urban—35	..	..	..
(vii) Straits Settlement and Malaya	2	1	1		..	..	..
Rural—89	2	1	1	E—Countries in America	9	4	5
(viii) Elsewhere in Asia	1,327	901	426	(i) United States	9	4	5
Rural—87	10	3	7	Rural—87	1	1	..
Rural—88	160	74	86	Rural—88	2	..	2
Rural—89	429	217	212	Rural—89	4	3	1
Rural—90	206	136	70	Rural—90	..	..	..
Rural—91	522	471	51	Rural—91	2	..	2
Urban—35	..	..	..	Urban—35	..	..	..
C—Countries in Europe (excluding U.S.S.R.)							
(i) United Kingdom and Northern Ireland	210	136	74	F—Countries in Australasia	3	..	3
Rural—87	1	1	..	(i) Australia	3	..	3
Rural—88	38	27	11	Rural—87	..	..	..
Rural—89	87	42	45	Rural—88	1	..	1
Rural—90	28	17	11	Rural—89	2	..	2
Rural—91	50	45	5				
Urban—35	..	..	..	G—Born at Sea	..	..	..
(ii) Eire	2	2	..				
Rural—89	2	2	..				
(iii) Elsewhere in Europe excluding U.S.S.R.	4	2	2				
Rural—89	4	2	2				

TABLE 1.25—DIV—MIGRANTS—contd.
ABSTRACT OF TABLE DIV

Birthplace for countries outside India but
not specifically mentioned in DIV

Countries where born	Persons				Countries where born				Persons			
	1	2	3	4	1	2	3	4	1	2	3	4
(i) <i>Elsewhere in Asia</i>		1,327	901	426	Bhutan	.	.	.	.	1,302	891	411
Tibet	.	25	10	15	Rural—87	.	.	.	.	7	1	6
Rural—87	.	.	3	.	Rural—88	.	.	.	.	150	74	76
Rural—88	.	10	.	10	Rural—89	.	.	.	.	426	214	212
Rural—89	.	3	2	1	Rural—90	.	.	.	.	204	136	68
Rural—90	.	2	.	2	Rural—91	.	.	.	.	515	466	49
Rural—91	.	7	5	2	Urban—35	.	.	.	.	..	..	..
Urban—35	(ii) <i>Elsewhere in Europe</i>	.	.	.	.	4	2	2
	Italy	.	.	.	.	.	.	.
	Rural—89	.	.	.	.	4	2	2

TABLE 1.25—DIV—SUBSIDIARY TABLE OF MIGRANTS

Lives and Class No	Total population born in other States of India but not within the State of enumeration											
	Persons			Males			Females			Persons		
	2	3	4	5	6	7	8	9	10	11	12	13
	2	3	4	5	6	7	8	9	10	11	12	13
I	3,180	2,176	1,004	1,686	769	28	10	217	41	..	..	2
II	9,145	5,456	3,689	3,464	2,985	104	63	474	158	..	..	25
III	923	805	118	749	95	14	3	14	6	..	..	1
IV	413	98	315	74	286	..	2	6	11	..	..	3
V	78,290	41,442	36,848	29,461	27,280	1,434	1,998	2,745	736	..	..	1,965
VI	8,863	6,613	2,250	4,396	951	62	22	83	84	..	..	5
VII	4,790	3,917	873	2,980	687	344	26	180	54	..	..	6
VIII	16,494	14,354	2,140	12,961	1,650	174	30	216	133	1	4	64
Total	122,098	74,861	47,237	55,771	34,703	2,160	2,154	3,935	1,223	1	4	2,071
												2,171
												2,598
												1,043

TABLE 1.25—DIV—SUBSIDIARY TABLE OF MIGRANTS—concl'd.

Livelihood Class No.	Himachal Pradesh		Vindhya Pradesh		Madhya Bharat		Punjab		Rajasthan		PEFSU		Hyderabad		Bombay	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
I	..	..	..	161	60	6	5	31	14	..	..	..	..	..	..	..
II	87	..	1	566	298	..	..	40	40	..	..	..	..	..	..	..
III	..	..	..	8	9	1	1	6	..	..	..	..	..	..	..	..
IV	..	..	..	1	7	..	..	10	3	..	..	..	..	..	..	..
V	23	..	85	3,675	3,318	327	71	683	147	..	..	3	93	15	2	13
VI	..	..	..	40	15	502	225	943	758	10	10	..	..	3	2	2
VII	..	..	10	48	49	127	24	19	..	..	..	1	1	2	2	13
VIII	1	..	..	83	66	143	34	107	166	..	..	1	1	2	2	13
Total	111	..	95	4,582	3,822	1,106	360	1,839	1,128	10	10	1	4	100	32	

Livelihood Class No.	Saurashtra		Madras		Mysore		Travancore-Cochin		Kashmir		Tripura		Delhi		Manipur	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
I	..	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..
II	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..
III	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
IV	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
V	..	..	196	..	..	12	..	..	..	111	1	..	4	1	..	..
VI	3	..	3	..	..	1	..	..	..	7	..	5	3	2	..	..
VII	6	..	20	1	..	3	..	..	..	6	..	2	..	..	..	..
VIII	..	..	51	1	..	5	..	..	1	4	..	31	..	..	1	..
Total	9	4	276	570	2	21	..	..	1	129	2	42	4	2	1	

**TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND
DATE OF ARRIVAL IN INDIA**

District of Origin in Pakistan	1946						1947											
	Males		Females		January		February		March		April		May		June		July	
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Males	Females
1 Kusthia	13	8	1	..	4	2	27	7	10	8	6	4	13	8	2	..		
2 Jessore	8	9	2	10	18	6	7	8	22	11	16	6	10	4	23	28		
3 Khulna	3	..	3	..	2	3	3	2	2	4	15	4	2	6	18	9		
4 Rajshahi	10	..	3	4	1	6	3	15	1	19	7	11	13	13	2	3		
5 Dinaipur	24	24	7	15	6	8	17	66	2	28	6	43	5	20	83	4		
6 Rangpur	276	265	83	147	29	30	66	39	30	38	28	26	112	11	16	71		
7 Bogra	7	3	..	..	6	3	9	..	15	9	5	3	8	26	3	7		
8 Pabna	41	34	11	6	24	17	45	42	7	4	27	7	7	42	11	44		
9 Dacca	165	156	81	75	33	62	112	149	62	44	117	44	197	60	62	39		
10 Mymensingh	158	106	70	106	37	22	59	35	18	23	19	31	24	15	20	17		
11 Faridpur	36	37	34	7	11	19	49	20	7	16	36	20	12	21	18	8		
12 Bakarganj	23	11	11	17	11	9	11	16	13	21	24	31	5	2	22	12		
13 Tipperah	39	24	7	11	9	5	8	9	5	1	3	10	3	5	57	3		
14 Noakhali	38	29	..	1	4	1	8	11	15	5	3	3	3	11	12	4		
15 Chittagong	16	8	2	4	9	9	9	5	6	6	4	..	6	6	58	10		
16 Sylhet	28	31	..	..	3	7	..	4	..	4	3	5	1	1	7	7		
17 West Punjab	..	..	..	..	..	..	33	10	..	..	..	..	..	..	..	..
18 State	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
19 N. W. F. P.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 District not stated	67	1	4	6	1	..	12	17	9	1	9	14	22	2	8	..		
21 Sindh	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	952	746	319	409	208	209	478	455	224	242	328	262	443	253	422	266		

**TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND
DATE OF ARRIVAL IN INDIA—contd.**

District of Origin in Pakistan	1947												Total of 1947	
	August		September		October		November		December		Month not stated			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1 Kusthia .	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2 Jessore .	55	52	8	13	7	12	7	6	9	8	..	..	149	120
3 Khulna .	113	60	30	13	35	37	12	23	15	17	..	..	303	223
4 Rajshahi .	58	51	21	24	14	11	42	15	15	20	..	..	195	149
5 Dinajpur .	98	33	10	7	7	4	12	2	..	4	..	..	157	121
6 Rangpur .	112	113	23	12	13	16	82	33	11	17	..	..	367	375
7 Bogra .	335	385	108	53	121	40	103	123	90	106	..	..	1,121	1,069
8 Pabna .	72	27	11	6	16	4	9	6	10	13	..	..	164	104
9 Dacca .	233	78	27	51	29	37	17	15	22	31	..	..	460	374
10 Mymensingh .	462	392	87	98	228	94	86	132	189	190	..	..	1,716	1,379
11 Faridpur .	375	277	147	72	72	59	39	66	113	145	..	..	993	868
12 Bakarganj .	288	173	26	36	72	43	20	49	49	40	..	..	622	452
13 Tipperah .	130	56	19	23	12	21	14	15	32	27	..	..	304	250
14 Noakhali .	99	81	8	19	20	21	4	9	13	3	..	..	236	177
15 Chittagong .	143	83	26	34	33	9	28	15	17	7	..	..	292	184
16 Sylhet .	120	90	30	20	14	23	6	15	20	23	..	..	284	211
17 West Punjab .	29	32	2	2	9	6	..	..	..	11	..	..	54	79
18 State .	1	..	1	3	..	..	4	..	..	..	..	..	39	13
19 N. W. F. P. .	1	..	..	..	..	..	..	..	2	..	..	..	3	..
20 District not stated	..	..	..	..	1	..	1	..	..	..	..	..	2	..
21 Sindh .	5	6	6	4	17	2	1	10	2	3	..	..	96	65
	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Total	2,730	1,989	590	490	720	439	487	534	609	665	..	..	7,558	6,213

**TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND
DATE OF ARRIVAL IN INDIA—contd.**

1948

District of Origin in Pakistan	January		February		March		April		May		June		July	
	Males		Males		Males		Males		Males		Males		Males	
	Females		Females		Females		Females		Females		Females		Females	
1 Kusthia . . .	32	33	34	35	36	37	38	39	40	41	42	43	44	45
2 Jessore . . .	11	23	6	1	18	12	4	18	24	4	30	6	5	14
3 Khulna . . .	28	20	20	25	34	18	23	10	16	5	5	11	39	6
4 Rajshahi . . .	9	11	6	10	10	14	8	4	27	6	14	2	10	10
5 Dinajpur . . .	1	8	8	23	23	25	25	11	2	2	50	12	11	..
6 Rangpur . . .	6	30	217	99	40	90	6	101	175	41	85	45	4	38
7 Bogra . . .	135	58	192	193	255	229	347	157	71	101	214	115	91	70
8 Pabna . . .	6	..	6	11	7	32	50	25	25	12	1	7	2	1
9 Dacca . . .	53	41	51	52	75	134	149	27	169	70	14	47	37	41
10 Mymensingh . . .	103	221	102	137	340	313	287	156	325	306	291	118	286	126
11 Faridpur . . .	197	244	264	256	395	309	310	150	171	139	181	112	256	152
12 Bakarganj . . .	56	89	57	80	82	95	129	33	47	49	156	26	44	28
13 Tipperah . . .	18	39	16	12	25	35	70	48	34	44	13	20	48	12
14 Noakhali . . .	49	27	31	43	35	51	75	36	53	19	3	15	2	12
15 Chittagong . . .	22	18	78	55	39	54	45	17	6	8	20	8	11	10
16 Sylhet . . .	4	3	7	1	9	10	39	9	3	9	11	15	2	5
17 West Punjab . . .	6	3	6	3	13	3	3	2	4	4	17	8	2	4
18 State . . .	4	..	..	..	..	..	6	..	..	..	..	..	4	..
19 N. W. F. P. . .	..	..	..	..	4	..	..	..	..	..	..	..	..	..
20 District not stated	2	9	4	6	36	27	5	4	3	1	5	1	6	..
21 Sindh . . .	3	..	1	..	3	..	1	7	..	..	..	..	..	..
Total	713	844	1,072	1,007	1,443	1,451	1,582	815	1,148	820	1,110	568	860	529

TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND DATE OF ARRIVAL IN INDIA—contd.

District of Origin in Pakistan	1948											
	August		September		October		November		December		Months not stated	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1 Kusthia	46	47	48	49	50	51	52	53	54	55	56	57
2 Jessore	3	3	7	6	8	..	3	3	7	28	..	..
3 Khulna	13	19	9	9	17	18	15	12	13	20	..	..
4 Rajshahi	6	7	1	3	9	2	1	2	6	6	..	..
5 Dinajpur	4	23	3	12	..	10	..	2	5	8	..	..
6 Rangpur	29	47	8	45	7	4	8	22	1	19	..	..
7 Bogra	55	94	101	80	45	69	34	26	63	59	..	..
8 Pabna	5	4	18	20	2	..	3	12	2	6	..	..
9 Dacca	23	35	21	21	29	12	24	31	32	21	..	..
10 Mymensingh	287	86	78	61	47	76	42	89	112	82	..	..
11 Faridpur	118	134	125	178	115	162	115	100	166	204	..	..
12 Bakarganj	10	49	17	16	24	30	35	41	23	16	..	..
13 Tipperah	25	4	6	8	7	36	16	13	3	19	..	..
14 Noakhali	8	11	8	7	11	22	2	16	31	33	..	..
15 Chittagong	3	10	2	7	27	26	8	21	15	13	..	..
16 Sylhet	5	3	2	8	14	..	2	3	18	4	..	..
17 West Punjab	7	1	4	1	..	..	..	..	9	4	..	..
18 State . . . . .	..	..	..	..	..	..	..	..	..	..	..	..
19 N. W. F. P.	1	..	..	..	..	..	..	..	..	..	..	..
20 District not stated	10	..	4	5	14	..	7	3	5	..	..	..
21 Sindh . . . . .	..	..	..	..	1	..	..	..	..	..	..	..
Total	612	530	414	487	377	467	316	396	511	542	..	..
											10,156	8,456

TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND DATE OF ARRIVAL IN INDIA—contd.

District of Origin in Pakistan	1949											
	January		February		March		April		May		June	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1 Kusthia . . .	60	61	62	63	64	65	66	67	68	69	70	71
2 Jessore . . .	6	5	16	14	4	3	8	1	..	4	4	..
3 Khulna . . .	6	3	6	10	29	15	2	1	5	6	6	5
4 Rajshahi . . .	2	1	3	4	19	11	6	5	3	3	6	2
5 Dinajpur . . .	9	4	3	6	8	13	23	18	..	2	31	16
6 Rangpur . . .	24	42	20	54	536	247	459	533	247	108	323	106
7 Bogra . . .	92	86	108	83	472	562	462	336	156	91	62	39
8 Pabna . . .	12	12	4	9	37	19	..	6	1	10	8	3
9 Dacca . . .	16	36	24	41	97	33	44	32	9	18	16	23
10 Mymensingh . . .	101	133	76	85	278	206	191	113	80	75	194	135
11 Faridpur . . .	367	240	146	190	297	247	224	166	75	27	194	81
12 Bakarganj . . .	30	15	39	39	125	47	45	29	29	27	12	42
13 Tipperah . . .	3	6	16	20	22	14	6	10	11	1	1	4
14 Noakhali . . .	15	13	3	..	27	11	11	7	4	5	2	20
15 Chittagong . . .	9	3	9	2	21	22	11	10	4	..	3	1
16 Sylhet . . .	4	8	2	3	18	13	3	4	20	4	5	2
17 West Punjab . . .	1	..	5	3	5	3	3	7	1	..	2	..
18 State . . .	..	..	3	..	..	..	..	..	..	..	..	..
19 N. W. F. P. . . .	..	..	..	..	..	..	..	..	..	..	..	..
20 District not stated	9	2	..	1	41	62	43	46	28	4	9	8
21 Sindh . . .	..	..	..	..	..	..	..	..	..	..	..	..
Total	706	609	483	584	2,036	1,528	1,541	1,324	673	385	878	487
											370	321

TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND DATE OF ARRIVAL IN INDIA—contd.

District of Origin in Pakistan	1949												Total of 1949	
	August		September		October		November		December		Month not stated			
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1 Kusthia . . .	74	75	76	77	78	79	80	81	82	83	84	85	86	87
2 Jessore . . .	2	6	2	..	1	5	3	3	1	..	..	..	47	41
3 Khulna . . .	3	2	6	1	6	5	5	13	11	9	..	..	85	76
4 Rajshahi . . .	3	9	1	..	..	4	1	3	1	4	..	..	48	50
5 Dinajpur . . .	17	2	1	2	16	6	24	11	5	3	..	..	147	87
6 Rangpur . . .	3	29	62	22	1	18	6	29	109	80	..	..	1,920	1,352
7 Bogra . . .	97	16	39	117	124	78	116	118	150	106	..	..	1,923	1,698
8 Pabna . . .	..	3	1	4	..	..	1	11	12	3	..	..	96	80
9 Dacca . . .	4	12	5	27	40	11	7	10	23	19	..	..	296	279
10 Mymensingh . . .	153	101	158	41	50	88	45	92	89	81	..	..	1,448	1,211
11 Faridpur . . .	108	64	161	34	30	59	35	88	56	104	..	..	1,752	1,341
12 Bakarganj . . .	18	31	49	27	19	17	17	4	18	21	..	..	412	310
13 Tipperah . . .	33	7	2	3	4	8	5	2	3	6	..	..	110	84
14 Noakhali . . .	3	1	30	2	8	7	3	2	6	2	..	..	149	72
15 Chittagong . . .	5	4	2	..	1	1	2	7	9	9	..	..	77	62
16 Sylhet . . .	2	8	5	1	9	9	3	..	7	6	..	..	80	59
17 West Punjab . . .	..	1	5	1	..	..	6	10	2	3	..	..	32	28
18 State . . .	..	..	3	5	..	2	..	..	4	..	..	..	11	7
19 N. W. F. P. . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 District not stated	14	5	7	..	3	5	8	..	24	5	187	156
21 Sindh
Total	465	301	539	287	312	323	287	403	530	461	8,820	6,993

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**TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND
DATE OF ARRIVAL IN INDIA—contd.**

1950

District of Origin in Pakistan	August				September				October				November				December				Total of 1950	
	Males		Females		Males		Females		Males		Females		Males		Females		Males		Females		Males	Females
1 Kusthia	102	103	104	105	106	107	108	109	110	111	112	113										
2 Jessore	1	6	18	3	1	9	1	2	5	4	87	96										
3 Khulna	20	18	1	17	1	5	18	7	5	..	153	168										
4 Rajshahi	6	2	18	14	4	3	4	3	5	..	94	99										
5 Dinajpur	8	14	6	8	..	3	3	15	1	8	215	198										
6 Rangpur	137	8	6	6	16	27	19	46	8	36	6,740	5,471										
7 Bogra	81	67	189	125	73	142	53	47	113	50	8,460	7,345										
8 Pabna . . . . .	..	1	48	8	5	..	..	4	11	17	249	219										
9 Dacca	92	39	5	22	17	32	5	38	31	25	655	673										
10 Mymensingh	158	151	258	53	182	188	167	73	151	83	3,296	2,576										
11 Faridpur	270	63	130	72	124	70	64	51	83	100	3,839	3,170										
12 Bakharganj	44	21	28	33	28	35	15	24	21	18	772	592										
13 Tipperah	1	6	15	11	59	15	5	5	5	..	330	266										
14 Noakhali	33	2	7	9	1	2	9	2	9	7	240	161										
15 Chittagong	55	3	20	10	6	6	8	16	4	5	281	116										
16 Sylhet	28	14	13	..	5	8	12	2	9	5	186	119										
17 West Punjab	13	..	3	1	4	2	5	..	6	6	93	76										
18 State . . . . .	..	..	2	..	..	..	..	..	..	..	9	..										
19 N. W. F. P. . . . .	..	..	..	..	..	..	..	..	..	..	..	4										
20 District not stated	2	6	11	14	2	2	3	4	30	9	302	286										
21 Sindh . . . . .	..	..	..	..	..	..	..	..	..	..	..	..
Total	949	421	778	406	528	549	391	339	497	373	25,991	21,635										

TABLE 1.26—DV—DISPLACED PERSONS BY DISTRICT OF ORIGIN AND DATE
OF ARRIVAL IN INDIA—concl'd.

District of Origin in Pakistan	1951										Grand Total of 1946 to 1951	
	January		February		Month not stated		Total of 1951					
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1 Kusthia	114	115	116	117	118	119	120	121	122	123		
2 Jessore	1	..	3	..	..	..	4	..	426	393		
3 Khulna	3	2	2	2	..	..	3	4	784	653		
4 Rajshahi	..	2	4	2	..	..	4	4	451	379		
5 Dinajpur	14	4	1	..	..	..	15	4	676	546		
6 Rangpur	14	13	11	14	..	..	25	26	9,662	7,829		
7 Bogra	120	81	81	50	..	..	201	131	13,584	11,759		
8 Pabna	9	..	19	17	..	..	28	17	671	553		
9 Dacca	48	16	17	2	..	..	65	18	2,185	1,910		
10 Mymensingh	46	32	44	22	..	..	90	54	9,005	7,147		
11 Faridpur	87	78	54	38	..	..	141	116	9,296	7,741		
12 Bakarganj	9	5	9	5	..	..	18	10	2,540	1,953		
13 Tipperah	4	..	4	1	..	..	8	1	1,056	902		
14 Noakhali	12	1	1	2	..	..	13	3	985	729		
15 Chittagong	6	1	4	9	..	..	10	10	974	648		
16 Sylhet	..	..	7	..	..	..	7	..	689	467		
17 West Punjab	2	1	..	..	..	..	2	1	280	248		
18 State	..	..	..	..	..	..	..	..	73	20		
19 N. W. F. P.	..	..	..	..	..	..	..	..	4	4		
20 District not stated	..	..	4	11	..	..	8	11	761	575		
21 Sindh	4	..	..	..	..	..	..	..	10	7		
Total	379	236	263	174	..	..	642	410	54,119	44,453		

TABLE 1.27—DVI—NON-INDIAN NATIONALS

District and Tract	Total		Pakistani		British		American		Nepali		Bhutanese		
	Persons	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8	9	10	11	12	13	14
JALPAIGURI DISTRICT													
Total	29,399	16,231	13,168	13,161	10,995	176	117	2	6	2,538	1,894	164	82
Rural	28,923	15,945	12,978	12,928	10,850	176	117	2	6	2,491	1,849	164	82
Urban	476	286	190	233	145	..	..	..	..	47	45	..	..
Rural—87	9,251	5,014	4,237	4,985	4,218	4	..	..	..	21	19	..	..
Rural—88	5,308	3,210	2,098	2,846	1,925	30	14	..	3	305	144	27	5
Rural—89	2,400	1,523	877	847	390	64	53	2	1	519	401	134	77
Rural—90	8,990	5,115	3,875	3,316	2,504	17	11	..	..	1,646	1,283	..	..
Rural—91	2,974	1,083	1,891	934	1,813	61	39	..	2	..	2	..	..
Urban—35	476	286	190	233	145	..	..	..	..	47	45	..	..
Total	..	..	176	8	2	..	..	1	..	..	..	2	2
Rural	..	..	174	4	2	..	..	1	..	..	..	2	2
Urban	..	..	2	4	..	..	..	..	..	..	..	..	..
Rural—87	..	..	..	2	..	..	..	..	..	..	..	..	..
Rural—88	..	..	26	7	..	..	..	..	..	..	..	..	..
Rural—89	..	..	58	30	..	..	..	1	..	..	..	2	2
Rural—90	..	..	2	..	..	..	..	..	..	..	..	..	..
Rural—91	..	..	86	31	2	..	..	..	..	..	..	..	..
Urban—35	..	..	2	..	..	..	..	..	..	..	..	..	..
..													

VITAL STATISTICS

TABLE 2.1—BIRTH AND DEATH RECORD—1941-50

Births and Deaths		1941-50	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1		2	3	4	5	6	7	8	9	10	11	12
1	Births											
	Male	118,920	13,267	12,254	9,986	8,276	9,485	13,035	12,477	13,720	13,725	12,695
	Female	113,033	12,663	11,485	9,856	7,840	9,090	12,066	11,908	13,177	13,368	11,580
2	Birth Rate (a)											
	Male	14.0	15.7	14.5	11.8	9.8	11.2	15.4	14.7	16.2	16.2	15.0
	Female	13.4	15.0	13.6	11.6	9.3	10.7	14.3	14.1	15.6	15.8	13.7
3	Birth Rate (b)											
	Male	15.5	15.7	16.0	13.0	10.9	12.7	17.5	16.6	18.1	17.9	16.4
	Female	14.7	15.0	14.9	12.8	10.3	12.2	16.2	15.9	17.4	17.4	15.0
4	Female Births reported per 1,000 male births	950.5	954.5	937.2	987.0	947.3	958.4	925.7	954.4	960.4	974.0	912.2
5	Deaths											
	Male	111,291	10,422	10,211	13,933	14,147	12,515	12,243	9,776	9,381	9,171	9,492
	Female	104,298	10,017	9,691	12,871	13,168	11,692	11,177	8,964	8,786	9,030	8,902
6	Death Rate (c)											
	Male	24.2	22.6	22.2	30.2	30.7	27.2	26.6	21.2	20.4	19.9	20.6
	Female	27.1	26.0	25.2	33.4	34.2	30.4	29.0	23.3	22.8	23.4	23.1
7	Death Rate (d)											
	Male	26.8	22.6	24.5	33.4	34.4	30.9	30.3	24.1	22.9	22.1	22.7
	Female	29.7	26.0	27.6	36.5	37.9	24.2	32.7	26.1	25.3	25.7	25.1
8	Female Deaths reported per 1,000 male deaths	937.2	961.1	949.1	923.8	930.8	934.2	912.9	916.9	936.9	984.6	937.8

(a) Number of births per 1,000 of the total population calculated on the population of 1941.

(b) Number of births per 1,000 of the total population calculated on the estimated population on the 30th June of each year.

(c) Number of deaths per 1,000 of the same sex calculated on the population of 1941.

(d) Number of deaths per 1,000 of the same sex calculated on the estimated population on the 30th June of each year.

Source : —Directorate of Health Services, West Bengal.

TABLE 2.2—DEATHS FROM SELECTED CAUSES

Cause of Death		1941-50	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1		2	3	4	5	6	7	8	9	10	11	12
1	Cholera											
	Actual Deaths											
	Male	136	102	72	865	64	25	22	24	36	34	117
	Female	129	87	53	830	65	22	11	27	35	46	109
	Death Rate											
	Male	.3	.2	.2	1.9	.1	.1	.05	.05	.1	.1	.3
	Female	.3	.2	.1	2.2	.2	.1	.03	.1	.1	.1	.3
2	Fever											
	Actual Deaths											
	Male	5,491	5,781	5,583	7,582	8,162	8,997	5,842	4,099	3,486	3,325	3,648
	Female	4,993	5,497	5,419	6,296	7,719	6,503	5,252	3,738	3,144	3,085	3,274
	Death Rate											
	Male	11.8	12.6	12.1	16.5	17.7	15.2	12.7	8.9	7.6	7.2	7.9
	Female	13.0	14.2	14.1	16.3	20.0	16.9	13.6	9.7	8.2	8.0	8.5

TABLE 2.2—DEATHS FROM SELECTED CAUSES—contd.

Cause of Death					1941-50	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
3 Small Pox															
Actual Deaths															
Male	.	.	.	.	15	..	2	15	66	43	4	3	4	..	8
Female	.	.	.	.	8	..	..	16	34	13	2	2	..	..	8
Death Rate															
Male	.	.	.	.	.03	..	.004	.03	.1	.1	.01	.01	.01	..	.02
Female	.	.	.	.	.02	..	..	..	.1	.1	.01	.01	..	..	.02
4 Plague															
Actual Deaths															
Male	.	.	.	.	..	..	..	..	..	..	..	..	..	..	..
Female	.	.	.	.	..	..	..	..	..	..	..	..	..	..	..
Death Rate															
Male	.	.	.	.	..	..	..	..	..	..	..	..	..	..	..
Female	.	.	.	.	..	..	..	..	..	..	..	..	..	..	..
5 Dysentery, Diarrhea and Enteric Group of Fevers															
Actual Deaths															
Male	.	.	.	.	592	349	213	420	515	563	1,008	598	617	715	920
Female	.	.	.	.	510	286	167	383	478	539	657	518	579	679	818
Death Rate															
Male	.	.	.	.	1.3	.8	.5	.9	1.1	1.2	2.2	1.3	1.3	1.6	2.0
Female	.	.	.	.	1.3	.7	.4	1.0	1.2	1.4	1.7	1.3	1.5	1.8	2.1
6 Respiratory Diseases															
other than T. B. of Lungs					..	..	..	..	..	..	..	..	..	..	..
Actual Deaths															
Male	.	.	.	.	2,200	2,131	2,111	2,496	2,633	2,537	2,365	2,116	2,032	1,999	1,583
Female	.	.	.	.	1,629	1,520	1,413	1,736	2,011	1,875	1,866	1,464	1,527	1,598	1,280
Death Rate															
Male	.	.	.	.	4.8	4.6	4.6	5.4	5.7	5.5	5.1	4.6	4.4	4.3	3.4
Female	.	.	.	.	4.2	3.9	3.7	4.5	5.2	4.9	4.8	3.8	4.0	4.1	3.3
7 Suicide															
Actual Deaths															
Male	.	.	.	.	15	10	16	13	11	10	45	7	13	12	10
Female	.	.	.	.	9	12	8	8	10	6	19	7	7	6	5
Death Rate															
Male	.	.	.	.	.03	.02	.03	.03	.02	.02	.1	.02	.03	.03	.02
Female	.	.	.	.	.02	.03	.02	.02	.03	.02	.05	.02	.02	.02	.01
8 Child Birth															
Actual Deaths															
Female	.	.	.	.	537	638	554	480	389	444	679	473	547	661	500
Death Rate															
Female	.	.	.	.	1.4	1.7	1.4	1.2	1.0	1.2	1.8	1.2	1.4	1.7	1.3

TABLE 2.2—DEATHS FROM SELECTED CAUSES—concl'd.

Cause of Death					1941-50	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1						3	4	5	6	7	8	9	10	11	12
9 Malaria															
Actual Deaths															
Male					2,102	2,143	1,956	2,345	2,148	2,689	2,897	1,934	1,841	1,687	1,375
Female					1,975	2,054	1,873	2,141	2,055	2,644	2,658	1,868	1,690	1,547	1,224
Death Rate															
Male					4.6	4.7	4.2	5.1	4.7	5.8	6.3	4.2	4.0	3.7	3.0
Female					5.1	5.3	4.9	5.6	5.3	6.9	6.9	4.9	4.4	4.0	3.2
10 Kala-azar															
Actual Deaths															
Male					67	38	45	61	51	70	100	123	84	68	32
Female					51	27	29	36	39	68	68	83	68	58	34
Death Rate															
Male					.1	.1	.1	.1	.1	.2	.2	.3	.2	.1	.1
Female					.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.1
11 T. B. of Lungs															
Actual Deaths															
Male					269	224	214	228	174	120	209	287	406	408	417
Female					148	101	87	118	90	46	116	160	195	277	292
Death Rate															
Male					6	5	5	5	4	3	5	6	9	9	9
Female					4	3	2	3	2	1	3	4	5	7	8
12 Snake Bite															
Actual Deaths															
Male					19	18	20	15	11	19	16	21	22	25	20
Female					13	9	13	11	10	8	4	17	17	24	22
Death Rate															
Male					.04	.04	.04	.03	.02	.04	.03	.05	.05	.1	.04
Female					.03	.02	.03	.03	.03	.02	.01	.04	.04	.1	.1

The Death Rate is the annual death rate per 1,000 of the same sex calculated on the population of 1941.

Source :—Directorate of Health Services., West Bengal.

AGRICULTURE
TABLE 3.1—PERSONS CULTIVATING OWN LAND OR EMPLOYING BARGADAR
WITH SIZE OF LAND OWNED AND OR GIVEN IN BHAG

JALPAIGURI DISTRICT		Number of persons employing bargadars for the following out of total land owned (in acres)																		
Area of all cultivated lands owned (rent-free or for which rent is paid) (in acres)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
0 to 1.00		Total No. of persons employing no bargadars	Total No. of persons (Cols. 5 to 19)		0 to 1.00	1.01 to 2.00	2.01 to 3.00	3.01 to 4.00	4.01 to 5.00	5.01 to 6.00	6.01 to 7.00	7.01 to 8.00	8.01 to 9.00	9.01 to 10.00	10.01 to 15.00	15.01 to 20.00	20.01 to 25.00	25.01 to 33.33	33.34 upwards	
0 to 1.00		1,639	1,412	27	227															
1.01 to 2.00		3,524	3,027	497	122	375														
2.01 to 3.00		4,374	3,766	608	63	82	463													
3.01 to 4.00		2,772	2,192	580	27	117	84	352												
4.01 to 5.00		7,370	6,060	1,310	60	127	170	155	798											
5.01 to 6.00		1,633	1,034	599	41	61	97	63	93	244										
6.01 to 7.00		1,708	1,203	505	7	63	50	61	59	28	237									
7.01 to 8.00		2,216	1,440	776	14	24	9	72	121	75	53	327								
8.01 to 9.00		831	388	443	15	31	53	51	82	45	27	24	115							
9.01 to 10.00		4,237	2,782	1,455	15	16	45	34	53	64	118	102	110	398						
10.01 to 15.00		3,596	1,902	89	89	30	39	71	243	93	110	185	71	407	564					
15.01 to 20.00		1,758	607	1,151	14	25	27	13	72	57	39	54	33	179	351	287				
20.01 to 25.00		1,168	264	904	13	22	17	12	38	17	36	68	7	59	140	219	269			
25.01 to 33.33		772	169	603	13	24	17	10	18	12	40	13	10	41	73	66	113	153		
33.34 upwards		1,039	223	816	..	6		3	10	..	10	1	..	24	42	51	19	125	525	
Grand Total for entire District		38,627	26,251	12,376	707	1,003	1,152	897	2,087	635	670	774	346	1,108	1,170	623	401	278	525	
SADAR SUBDIVISION (Excluding Jalpaiguri Town)																				
0 to 1.00		883	747	136	136															
1.01 to 2.00		2,210	1,989	221	13	208														
2.01 to 3.00		2,700	2,357	343	11	27	305													
3.01 to 4.00		1,688	1,308	380	9	79	43	249												
4.01 to 5.00		4,784	4,044	740	16	73	86	30	535											
5.01 to 6.00		1,010	662	348	24	21	58	38	31	176										
6.01 to 7.00		1,181	826	355	5	38	42	34	40	15	181									
7.01 to 8.00		1,384	916	468	4	10	69	52	100	27	14	192								
8.01 to 9.00		447	211	236	5	20	28	33	51	13	16	9	61							
9.01 to 10.00		2,558	1,543	1,015	4	13	33	25	499	31	49	50	34	277						
10.01 to 15.00		2,295	1,045	1,250	10	17	30	32	193	55	71	125	44	317	356					
15.01 to 20.00		1,172	93	780	2	7	16	5	48	14	30	40	11	150	287	170				
20.01 to 25.00		631	138	493	..	7	14	3	18	9	7	6	2	35	96	154	149			
25.01 to 33.33		426	81	345	..	7	5	4	15	5	9	5	3	19	52	52	79	90		
33.34 upwards		704	104	600	..	4	..	3	9	..	1	1	..	11	27	29	16	79	420	

**TABLE 3.1—PERSONS CULTIVATING OWN LAND OR EMPLOYING BARGADAR
WITH SIZE OF LAND OWNED AND OR GIVEN IN BHAG—concl'd.**

Area of all cultivated lands owned (rent-free or for which rent is paid) (in acres)	Total No. of persons employed	No. of persons employed no bargadars	Total (Cols. 5 to 19)	Number of persons employing bargadars for the following out of total land owned (in acres)														33.34 up-wards
				0 to 1.00	1.00 to 2.00	2.00 to 3.00	3.00 to 4.00	4.00 to 5.00	5.00 to 6.00	6.00 to 7.00	7.00 to 8.00	8.00 to 9.00	9.00 to 10.00	10.00 to 15.00	15.00 to 20.00	20.00 to 25.00	25.00 to 33.33	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
ALIPUR DUARS SUBDIVISION (Excluding Alipur Duar Town)																		
0 to 1.00	741	651	90	90														
1.01 to 2.00	1,302	1,029	273	106	167													
2.01 to 3.00	1,661	1,400	261	52	54	155												
3.01 to 4.00	1,077	880	197	17	38	40	102											
4.01 to 5.00	2,571	2,003	568	44	54	84	125	261										
5.01 to 6.00	622	372	250	17	40	39	24	62	68									
6.01 to 7.00	523	376	147	2	25	8	27	17	13	55								
7.01 to 8.00	829	521	308	10	14	21	20	21	48	39	135							
8.01 to 9.00	384	177	207	10	11	25	18	31	32	11	15	54						
9.01 to 10.00	1,664	1,230	434	11	3	12	9	53	33	64	52	76	116					
10.01 to 15.00	1,265	624	641	79	13	9	39	50	38	39	58	27	88	201				
15.01 to 20.00	578	213	365	12	18	11	8	24	43	9	14	22	29	63	112			
20.01 to 25.00	529	124	405		22	3	9	20	8	28	62	5	24	44	65	115		
25.01 to 33.33	339	87	252	13	17	12	6	3	7	31	8	7	21	20	14	34	59	
33.34 upwards	301	108	193		2			1		9			13	15	19	2	44	88
Grand Total	14,386	9,795	4,591	463	478	419	387	543	290	290	214	191	291	343	210	151	130	8

**TABLE 3.2A—MEAN DENSITY (PERSONS PER SQ. MILE), CULTIVABLE
AND CULTIVATED AREAS, IRRIGATION, RAINFALL AND DISTRIBUTION OF CROPS
Figures Relate to the Year 1949-50**

Mean Density of 1951 (Persons per square mile)	Total Area (acres)		Area cropped more than once annually (acres)	Annual Rainfall		Area under (acres)				
	Cultivable	Cultivated		Normal	Average 1941-50 †	Rice	Other cereals and pulses	Jute	Fruits, vegetables, including root crops	Fodder, oilseeds and other crops
385	972,500	629,500	45,000	145.72*	144.29*	437,500	18,500	24,400	18,800	144,100
										31,200

*Normal of current year is not available. Normal rainfall figure supplied by the Meteorological Department before the partition of the Province and which is being used in our rainfall publications is now furnished above.

†Figures for the district are calculated by taking an unweighted arithmetical average of the figures published yearly during 1941-50 as the district annual average rainfall.

This district annual average is itself unweighted average of the annual rainfall of all the observatory stations within the district for which normal rainfall figures are on record.

N. B.—*Total area cultivable=Net area sown—current fallows+ cultivable waste land
Total area cultivated=Net area sown, i.e., Net area irrigated.

Source :—Directorate of Agriculture, West Bengal.

TABLE 3.2B—AGRICULTURAL STATISTICS

1	Mean density per sq. mile (1951)	. . . . .	385	(d) Private tanks	. . . . .	4,103
2	Annual Rainfall			(e) Wells	. . . . .	4,200
	(a) Normal	. . . . .	145.72*	(f) Other sources	. . . . .	. . .
	(b) Average 1949-50	. . . . .	160.16*	(g) Irrigated area as % of net cropped area of district	. . . . .	19%
	(c) Rainfall during year (March 1949—28th Feb. 50)	. . . . .	173.35*	(h) Irrigated area as % of total cultivable area of district	. . . . .	12%
3	Total area in sq. miles	. . . . .	2,374.36 (1,519,590)	(i) Irrigated area as % of total area of district	. . . . .	8%
	(a) Waste (in acres) cultivable waste	. . . . .	244,200	7	Total area under following crops (in acres)	674,500
	(b) (a) as % of total area of district	. . . . .	16%	8	Area under (in acres)	
	(c) Cultivable (net cropped area+current fallows—cultivable waste) (in acres)	. . . . .	972,500	(a) Rice	. . . . .	437,500
	(d) (c) as % of total area of district	. . . . .	64%	(b) (a) as % of total area under crops of 7	. . . . .	64%
4	Area cropped more than once annually (in acres)	. . . . .	45,000	(c) Other cereals and pulses	. . . . .	18,500
	(a) (a) as % of total area of district	. . . . .	3%	(d) (c) as % of total area under crops of 7	. . . . .	3%
5	(a) Net cropped area (in acres)	. . . . .	629,500	(e) Jute	. . . . .	24,400
	(b) (a) as % of total area of district	. . . . .	41%	(f) (e) as % of total area under crops of 7	. . . . .	4%
6	Total area irrigated (in acres) by			(g) Fruits, vegetables including root crops	. . . . .	18,800
	(a) Government canals	. . . . .	117,328	(h) (g) as % of total area under crops of 7	. . . . .	3%
	(b) Private canals	. . . . .	109,025	(i) Sugarcane, drugs and narcotics	. . . . .	144,100
	(c) Tanks under T. I. scheme	. . . . .	. . .	(j) (i) as % of total area under crops of 7	. . . . .	21%
				(k) Fodder, oilseeds and other crops	. . . . .	31,200
				(l) (k) as % of total area under crops of 7	. . . . .	5%

N. B.—Private tanks include tanks under T. I. scheme.
Source :—Directorate of Agriculture, West Bengal.

Rainfall (1949)				Summer Crops	Col. 4 as % of total cultivated area	Winter Crops	Col. 6 as % of total cultivated area	Spring Crops	Col. 8 as % of total cultivated area	Miscellaneous Crops	Col. 10 as % of total cultivated area	Total cultivated area†	Total area in square miles	Mean density per square mile
1 Mar. to 31 May	1 Sep. to 31 Oct	Total for these five months												
1	2	3		4	5	6	7	8	9	10	11	12	13	14
33.14*	33.49*	66.63*		..	..	470.900	69.8*	69.300	10.3%	134.300	19.9%	674.500	2,488	364

N.B.—†Total cultivated area has been taken to be gross cropped area. (Figures relate to the year 1949-50)

*Summer crops include:—*Summer rice and summer til.

Summer crops include :—Cassia rice, Maize, Bajra, other Kharif cereals, Kharif pulses, Winter til, jute, Sunnhemp and other fibres, Bhadoi fodder, **Winter crops include** :—Autumn rice, Jowar, Bazra, Maize, other Kharif cereals, Kharif pulses, Winter til, jute, Sunnhemp and other fibres, Bhadoi fodder, Bhadoi fruits and vegetables.

Spring crops include :- Wheat, Barley, other Rabi cereals, Pulses other than Kharif pulses, Oil seeds other than Til, Cotton, Tobacco, Potato, Rabi fruits and vegetables, sugarcrops, Bhadohi fruits and vegetables.

Miscellaneous crops include —Conditi-

Source :—Directorate of Agriculture, West Bengal.

TABLE 3.4—PROGRESS OF CULTIVATION DURING THREE DECADES

	Average net area sown (A1), in acres			Average area sown more than once (A2) in acres			Average net area irrigated (A3) in acres			Average area irrigated more than once + (A4) in acres		
	1951	1941	1921	1951	1941	1921	1951	1941	1921	1951	1941	1921
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	3	4	5	6	7	8	9	10	11	12	13
3	3	4	5	6	7	8	9	10	11	12	13	14
4	4	5	6	7	8	9	10	11	12	13	14	15
5	5	6	7	8	9	10	11	12	13	14	15	16
6	6	7	8	9	10	11	12	13	14	15	16	17
7	7	8	9	10	11	12	13	14	15	16	17	18
8	8	9	10	11	12	13	14	15	16	17	18	19
9	9	10	11	12	13	14	15	16	17	18	19	20
10	10	11	12	13	14	15	16	17	18	19	20	21
11	11	12	13	14	15	16	17	18	19	20	21	22
12	12	13	14	15	16	17	18	19	20	21	22	23
13	13	14	15	16	17	18	19	20	21	22	23	24
14	14	15	16	17	18	19	20	21	22	23	24	25
15	15	16	17	18	19	20	21	22	23	24	25	26
16	16	17	18	19	20	21	22	23	24	25	26	27
17	17	18	19	20	21	22	23	24	25	26	27	28
18	18	19	20	21	22	23	24	25	26	27	28	29
19	19	20	21	22	23	24	25	26	27	28	29	30
20	20	21	22	23	24	25	26	27	28	29	30	31
21	21	22	23	24	25	26	27	28	29	30	31	32
22	22	23	24	25	26	27	28	29	30	31	32	33
23	23	24	25	26	27	28	29	30	31	32	33	34
24	24	25	26	27	28	29	30	31	32	33	34	35
25	25	26	27	28	29	30	31	32	33	34	35	36
26	26	27	28	29	30	31	32	33	34	35	36	37
27	27	28	29	30	31	32	33	34	35	36	37	38
28	28	29	30	31	32	33	34	35	36	37	38	39
29	29	30	31	32	33	34	35	36	37	38	39	40
30	30	31	32	33	34	35	36	37	38	39	40	41
31	31	32	33	34	35	36	37	38	39	40	41	42
32	32	33	34	35	36	37	38	39	40	41	42	43
33	33	34	35	36	37	38	39	40	41	42	43	44
34	34	35	36	37	38	39	40	41	42	43	44	45
35	35	36	37	38	39	40	41	42	43	44	45	46
36	36	37	38	39	40	41	42	43	44	45	46	47
37	37	38	39	40	41	42	43	44	45	46	47	48
38	38	39	40	41	42	43	44	45	46	47	48	49
39	39	40	41	42	43	44	45	46	47	48	49	50
40	40	41	42	43	44	45	46	47	48	49	50	51
41	41	42	43	44	45	46	47	48	49	50	51	52
42	42	43	44	45	46	47	48	49	50	51	52	53
43	43	44	45	46	47	48	49	50	51	52	53	54
44	44	45	46	47	48	49	50	51	52	53	54	55
45	45	46	47	48	49	50	51	52	53	54	55	56
46	46	47	48	49	50	51	52	53	54	55	56	57
47	47	48	49	50	51	52	53	54	55	56	57	58
48	48	49	50	51	52	53	54	55	56	57	58	59
49	49	50	51	52	53	54	55	56	57	58	59	60
50	50	51	52	53	54	55	56	57	58	59	60	61
51	51	52	53	54	55	56	57	58	59	60	61	62
52	52	53	54	55	56	57	58	59	60	61	62	63
53	53	54	55	56	57	58	59	60	61	62	63	64
54	54	55	56	57	58	59	60	61	62	63	64	65
55	55	56	57	58	59	60	61	62	63	64	65	66
56	56	57	58	59	60	61	62	63	64	65	66	67
57	57	58	59	60	61	62	63	64	65	66	67	68
58	58	59	60	61	62	63	64	65	66	67	68	69
59	59	60	61	62	63	64	65	66	67	68	69	70
60	60	61	62	63	64	65	66	67	68	69	70	71
61	61	62	63	64	65	66	67	68	69	70	71	72
62	62	63	64	65	66	67	68	69	70	71	72	73
63	63	64	65	66	67	68	69	70	71	72	73	74
64	64	65	66	67	68	69	70	71	72	73	74	75
65	65	66	67	68	69	70	71	72	73	74	75	76
66	66	67	68	69	70	71	72	73	74	75	76	77
67	67	68	69	70	71	72	73	74	75	76	77	78
68	68	69	70	71	72	73	74	75	76	77	78	79
69	69	70	71	72	73	74	75	76	77	78	79	80
70	70	71	72	73	74	75	76	77	78	79	80	81
71	71	72	73	74	75	76	77	78	79	80	81	82
72	72	73	74	75	76	77	78	79	80	81	82	83
73	73	74	75	76	77	78	79	80	81	82	83	84
74	74	75	76	77	78	79	80	81	82	83	84	85
75	75	76	77	78	79	80	81	82	83	84	85	86
76	76	77	78	79	80	81	82	83	84	85	86	87
77	77	78	79	80	81	82	83	84	85	86	87	88
78	78	79	80	81	82	83	84	85	86	87	88	89
79	79	80	81	82	83	84	85	86	87	88	89	90
80	80	81	82	83	84	85	86	87	88	89	90	91
81	81	82	83	84	85	86	87	88	89	90	91	92
82	82	83	84	85	86	87	88	89	90	91	92	93
83	83	84	85	86	87	88	89	90	91	92	93	94
84	84	85	86	87	88	89	90	91	92	93	94	95
85	85	86	87	88	89	90	91	92	93	94	95	96
86	86	87	88	89	90	91	92	93	94	95	96	97
87	87	88	89	90	91	92	93	94	95	96	97	98
88	88	89	90	91	92	93	94	95	96	97	98	99
89	89	90	91	92	93	94	95	96	97	98	99	100
90	90	91	92	93	94	95	96	97	98	99	100	101
91	91	92	93	94	95	96	97	98	99	100	101	102
92	92	93	94	95	96	97	98	99	100	101	102	103
93	93	94	95	96	97	98	99	100	101	102	103	104
94	94	95	96	97	98	99	100	101	102	103	104	105
95	95	96	97	98	99	100	101	102	103	104	105	106
96	96	97	98	99	100	101	102	103	104	105	106	107
97	97	98	99	100	101	102	103	104	105	106	107	108
98	98	99	100	101	102	103	104	105	106	107	108	109
99	99	100	101	102	103	104	105	106	107	108	109	110
100	100	101	102	103	104	105	106	107	108	109	110	111
101	101	102	103	104	105	106	107	108	109	110	111	112
102	102	103	104	105	106	107	108	109	110	111	112	113
103	103	104	105	106	107	108	109	110	111	112	113	114
104	104	105	106	107	108	109	110	111	112	113	114	115
105	105	106	107	108	109	110	111	112	113	114	115	116
106	106	107	108	109	110	111	112	113	114	115	116	117
107	107	108	109	110	111	112	113	114	115	116	117	118
108	108	109	110	111	112	113	114	115	116	117	118	119
109	109	110	111	112	113	114	115	116	117	118	119	120
110	110	111	112	113	114	115	116	117	118	119	120	121
111	111	112	113	114	115	116	117	118	119	120	121	122
112	112	113	114	115	116	117	118	119	120	121	122	123
113	113	114	115	116	117	118	119	120	121	122	123	124
114	114	115	116	117	118	119	120	121	122	123	124	125
115	115	116	117	118	119	120	121	122	123	124	125	126
116	116	117	118	119	120	121	122	123	124	125	126	127
117	117	118	119	120	121	122	123	124	125	126	127	128
118	118	119	120	121	122	123	124	125	126	127	128	129
119	119	120	121	122	123	124	125	126	127	128	129	130
120	120	121	122	123	124	125	126	127	128	129	130	131
121	121	122	123	124	125	126	127	128	129	130	131	132
122	122	123	124	125	126	127	128	129	130	131	132	133
123	123	124	125	126	127	128	129	130	131	132	133	134
124	124	125	126	127	128	129	130	131	132	133	134	135
125	125	126	127	128	129	130	1					

How to compile. —(a) Figures are given in unit of acres.

(b) Quinquennial averages are given as follows. —

1951—Five years ending with crop year 1949-50

1941—Five year ending with crop year 1939-40

1931—Five years ending with crop year 1929-30

1921—Five years ending with crop year 1919-20

Source :—Directorate of Agriculture, West Bengal.

TABLE 3.5—COMPONENTS OF CULTIVATED AREA DURING THREE DECADES

Year	Unirrigated single-crop cultivation (in acres)			Unirrigated double-crop cultivation (in acres)			Irrigated single crop cultivation (in acres)			Irrigated double-crop cultivation (in acres)		
	1951	1941	1921	1951	1941	1921	1951	1941	1921	1951	1941	1921
483,454	1	2	4	5	6	8	9	10	11	13	14	16
483,454	39,580	29,800	52,200	113,446	118,211	112,400	249,808	20	...	...	...	58,169

Source :—Directorate of Agriculture, West Bengal

TABLE 36—GOVERNMENT EMBANKMENTS IN MILES

[illegible]

Source :—Irrigation and Waterways Department, West Bengal.

**TABLE 3.7—STATEMENT OF LAND UTILISATION IN THE DISTRICT IN
1944-45**

	Total for the district	Jalpaiguri	Alipur Duars
Paddy—			
Total	425,503.84	280,994.43	144,509.41
Aman	377,934.89	246,068.95	131,865.94
Boro	17.38	17.38	..
Aus	47,551.57	34,908.10	12,643.47
Cereals and Pulses—			
Total	19,614.51	5,762.76	13,851.75
Gram	4.21	0.61	3.60
Wheat	1,968.25	695.91	1,272.34
Barley	4,072.93	2,393.94	1,678.99
Musur	526.06	73.36	452.70
Mug	287.62	0.09	287.53
Maskalai	2,752.15	190.40	2,561.75
Khesari	2,531.62	1,220.11	1,311.51
Arhar	357.22	20.70	336.52
Maize	7,114.45	1,167.64	5,946.81
Other Food Crops—			
Sugarcane	2,167.99	831.84	1,336.15
Groundnut	7.52	5.61	1.91
Mustard	33,846.21	9,958.48	23,887.73
Til	124.39	27.42	96.97
Chillies	219.83	110.30	109.53
Potato	6,290.23	3,202.49	3,087.74
Onions and garlics	364.90	315.43	49.47
Vegetables and others	15,526.75	8,611.79	6,914.96
Fibre—			
Jute	23,128.78	17,749.28	5,379.50
Sunn hemp	0.93	0.46	0.47
Orchards and Others			
Cocoanut	36.08	15.61	20.47
Betelnut	2,765.36	1,764.32	1,001.04
Mango	642.72	391.17	251.55
Dates	1.80	1.77	0.03
Other fruits	1,172.77	425.03	747.74
Pan Boroj	16.99	16.58	0.41
Bamboo	20,330.81	12,799.72	7,531.09
Others	49,200.65	20,300.79	28,899.86
TOBACCO	10,281.36	4,525.95	5,755.41
SPECIFIC CROP IF ANY	129,956.61	80,613.08	49,343.53
TOTAL CROPPED			
DEFACTO			
NET CROPPED AREA			
CURRENT FALLOW			
Area not Available for cultivation			
Net unculturable area at the end of the year			
Total	419,552.56	197,958.91	221,593.65
Tank	2,348.12	1,890.06	458.06
Beel, Khal rivers, etc.	63,165.04	35,963.62	27,201.42
Path, road, bandh, railway lines, etc.	21,719.96	13,696.09	8,023.87
Shop, homestead, mosque, temple, etc.	47,564.70	24,670.63	22,894.07
Others if any	284,754.74	121,738.51	163,016.23
Culturable but not yet cultivated—			
Net culturable waste at the end of the year			
Total	222,629.32	137,743.75	84,885.57
Culturable waste	94,005.27	51,354.89	42,650.38
Bhita, etc.	22,710.14	15,735.22	6,974.92
Grazing ground	29,566.82	21,759.86	7,806.96
Jungles	70,429.43	44,693.63	25,735.80
Playing and camping grounds	1,094.82	676.58	418.24
Others if any	4,822.84	3,523.57	1,299.27
Total Area	1,378,678.83	790,568.05	588,110.78

Source :—Agricultural Statistics by Plot to Plot Enumeration in Bengal, 1944-45, Part I ; by H. S. M. Ishaque, 1946, page 84.

TABLE 3.8—ABSTRACT OF CULTURABLE WASTE LAND BLOCKS OF 100 ACRES AND ABOVE IN 1944-45

Scattered plots below 100 acres		100 acres and above to below 500 acres		500 acres and above to below 1,000 acres		1,000 acres and above to below 5,000 acres		5,000 acres and above		Tot
No. of blocks	Area in acres	No. of blocks	Area in acres	No. of blocks	Area in acres	No. of blocks	Area in acres	No. of blocks	Area in acres	
..	199,111	117	22,243	2	1,275	..	..	..	..	222,6

Source :—Agricultural Statistics by Plot to Plot Enumeration in Bengal 1944-45, Part I, by H. S. M. Ishaque, 1946, page 120.

TABLE 3.9—RESULTS OF CROP CUTTING EXPERIMENTS DURING THE YEAR 1944-45
(Figures refer to yields per acre)

Aman			Boro			Aus			Jute		
Paddy	Rice		Paddy	Rice		Paddy	Rice				
Md. Sr. Ch. Md. Sr. Ch.	Md. Sr. Ch.		Md. Sr. Ch. Md. Sr. Ch.			Md. Sr. Ch. Md. Sr. Ch.			Md. Sr. Ch.		
16 30 15 11 7 15			17 38 12 11 29 3			11 13 1 7 22 2			11 14 8		

N.B.—Crop cutting experiments of (1) Boro, (2) Aus and (3) Jute were conducted at a time when the staff had become extremely restless and nervous in consequence of recommendations of the Rowland Committee and it is not possible in every case to guarantee a high standard of work.
Source :—Agricultural Statistics by Plot to Plot Enumeration in Bengal 1944-45, Part I, by H. S. M. Ishaque, 1946, page 120.

**TABLE 3.10—RESULTS OBTAINED BY A DETAILED ECONOMIC ENQUIRY
MADE IN A SELECTED VILLAGE DURING THE MONTH OF OCTOBER 1945**

Name of Mauza	Classi- fication of families	No. of families in each class	Khas or Nijda- khal lands under cultiva- tion by self or labourers	Khas or Nijda- khal lands other than culti- vated lands, e.g., homestead, tanks, orchards, etc.	Khas or Nijdakhal lands let out to Bargadars	Khas or mijda- khal lands mortgaged to others under usufructuary	Total of 3, 4, 5 and 6	Lan's leased out to tenants	Lands culti- vated as Bar- gadars or Adhiars whether by self or by labourers	Lands held under tem- porary lease other than Barga	Lands held under usufruc- tuary mortgage cultivated by self or by labourers	Total of 9, 10 and 11
	1	2	3	4	5	6	7	8	9	10	11	12
District Jalpaiguri	{	A	57	Nil	Nil	Nil	Nil	Nil	284.83	Nil	Nil	284.83
Subdivision Alipur Duars		B	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
P. S. Falakata		C	3	6.50	1.40	Nil	7.90	Nil	2.50	Nil	Nil	2.50
J. L. 26		D	3	13.83	1.17	Nil	15.00	Nil	Nil	Nil	Nil	Nil
Paschim Khairbari		E	18	61.28	57.03	312.84	436.15	19.00	Nil	Nil	5.00	5.00
Total			81	81.61	59.60	312.84	459.05	19.00	287.33	Nil	5.00	292.33

- (A) Landless families or families having no khas land of their own other than homestead lands.
 (B) Families having in addition to homestead lands, some khas lands also the grand total of the area not exceeding 1 acre,
 (C) As (B) above, the total of area not exceeding 3 acres,
 (D) As (B) above, the total of area not exceeding 5 acres, and
 (E) As (B) above, the total exceeding 5 acres.

**TABLE 3.10—RESULTS OBTAINED BY A DETAILED ECONOMIC ENQUIRY
MADE IN A SELECTED VILLAGE DURING THE MONTH OF OCTOBER 1945—concl'd.**

Name of Mauza	Classifi- cation of families accord- ing to per capita income	No. of families in each class	Total No. of persons in the family of each class	Total income of each class	Total area of Khas land of each class	Total annual consump- tion, food, clothing, etc.	Out of pocket expenses on production	Grand total of expendi- ture	Total outstanding debts and liabilities	Name of crop	Total area cultivated in (acres)	Total cost of production (including families own labour and materials, etc., etc.)	Cost per acre
	1	2	3	4	5	6	7	8	9	10	11	12	13
District Jalpaiguri	M	1	3	107 8	Nil	335 0	Nil	335 0	228 8	Aus	4 12	268 4	65 2
Subdivision Alipur Duars	N	19	132	10,692 6	41.30	17,188 2	241 8	17,429 10	6,201 8	Aman	266.30	23,911 1	89 9
P. S. Falakata	O	47	250	34,699 8	257.25	39,915 8	1,415 1	41,330 9	6,870 0	Jute*	7.43	660 2	89 1
J. L. 26	P	14	40	10,119 0	160.50	9,510 13	323 12	9,834 9	175 0	..	..	..	..
Paschim Khairbari													
	Total	81	425	55,618 6	459.05	66,949 7	1,980 5	68,929 12	13,475 0	..	..	..	..

*—These figures being very low were excluded at the time of finding out the average cost of production.

M—Families with the per capita income range between Rs. 0 to Rs. 50 per annum.

N—Families with the per capita income range between Rs. 51 to Rs. 100 per annum.

O—Families with the per capita income range between Rs. 101 to Rs. 200 per annum.

P—Families with the per capita income range between Rs. 201 and above per annum.

Source :—Agricultural Statistics by Plot to Plot Enumeration in Bengal, 1944-45, Part I ; by H. S. M. Ishaque 1946, page 132.

TABLE 3.11—RAINFALL AND RAINY DAYS —1941-50

Months	1941		1942		1943		1944	
	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall
January	Nil	Nil	1	0.19	1	0.59	1	0.75
February	2	0.37	1	0.15	2	0.77	1	0.31
March	1	0.47	4	2.98	3	0.67	4	1.22
April	6	4.21	11	6.85	15	8.77	7	10.79
May	19	27.23	14	13.19	9	7.93	12	12.96
June	21	22.09	18	37.61	27	37.29	19	33.43
July	18	16.74	15	15.15	19	17.09	15	15.86
August	21	30.11	14	11.95	24	31.06	17	11.48
September	16	29.01	18	16.03	17	30.82	25	37.29
October	3	2.26	1	0.75	3	6.93	3	3.53
November	1	0.49	Nil	(a)	Nil	Nil	Nil	Nil
December	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total	108	132.98	97	104.85(c)	120	135.92	104	127.62

Months	1945		1946		1947		1948	
	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall
January	2	1.04	Nil	Nil	Nil	Nil	Nil	Nil
February	1	0.53	Nil	0.07	Nil	Nil	1	0.45
March	Nil	0.02	2	1.29	5	3.35	2	1.21
April	7	9.87	7	7.37	5	2.23	9	10.38
May	21	16.39	14	8.92	10	5.76	18	16.39
June	17	13.17	20	19.42	22	10.74	18	26.22
July	24	29.67	22	30.31	27	29.97	25	50.90
August	23	35.97	18	22.74	23	12.65	17	25.02
September	22	20.50	17	20.24	17	17.76	18	20.87
October	8	8.04	10	8.53	7	7.21	9	5.85
November	Nil	Nil	1	0.19	Nil	Nil	2	2.86
December	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Total	125	135.20	111	119.08	116	89.67	119	160.15

Months	1949		1950		Total for 10 (ten) years	
	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall	Number of Rainy days	Monthly Rainfall
January	1	0.30	Nil	Nil	6	2.87
February	2	0.66	2	0.27	12	3.58
March	Nil	0.13	1	0.35	22	11.69
April	11	13.43	4	2.45	82	76.35
May	12	10.92	13	12.40	142	132.09
June	22	22.63	18(c)	24.46(c)	202(c)	247.06(c)
July	23	28.78	22	35.26	210	269.73
August	26	33.37	23	37.41	206	251.76
September	16	22.80	15	26.92	181	242.24
October	8	10.39	5	4.85	57	52.34
November	Nil	Nil	Nil	Nil	4	3.54(c)
December	Nil	Nil	Nil	Nil	Nil	Nil
Total	121	143.41	103(c)	144.37(c)	1124(c)	1293.25(c)

(a)—Data not available (c) Incomplete.
Source :—Directorate of Agriculture, West Bengal.

TABLE 3.12—MEAN MAXIMUM AND HIGHEST; MEAN MINIMUM AND LOWEST TEMPERATURES IN HEADQUARTERS STATION—1948-50

Months	1948					1949					1950				
	Mean Maximum	Highest	Mean Minimum	Lowest		Mean Maximum	Highest	Mean Minimum	Lowest		Mean Maximum	Highest	Mean Minimum	Lowest	
1	2	3	4	5		6	7	8	9		10	11	12	13	
January	71	73	53	50	71	75	54	50		69	72	51	48	
February	74	81	55	47	72	80	56	46		73	78	53	44	
March	84	90	65	61	82	91	62	59		82	86	61	48	
April	85	94	70	61	81	91	67	62		88	94	69	58	
May	85	95	73	66	87	96	73	70		89	99	73	69	
June	89	96	77	72	86	95	75	70		91	99	76	71	
July	90	99	77	75	89	98	77	72		92	97	77	74	
August	90	95	77	74	88	95	76	71		89	96	76	75	
September	88	93	75	71	89	93	76	71		89	93	76	73	
October	83	89	67	63	86	92	73	70		84	94	72	68	
November	78	81	64	60	78	85	62	60		78	85	62	52	
December	71	78	53	48	70	76	53	51		72	75	55	50	

Source :—Director, Regional Meteorological Centre, Calcutta.

TABLE 3.13—FREQUENCY OF FLOODS AND DROUGHTS—1891-1950

Method of Computation

The period considered is from 1891 to 1950, i.e., 60 years. For each year the total rainfall during the season "May to October" (average rainfall recorded at all the stations in the district) was computed. From the 60 values of seasonal rainfall the "normal rainfall" was calculated. Now the rainfall in any particular year (i.e., during May to October) will deviate from the "normal rainfall". These deviations were computed for each year. From the 60 deviations the "mean deviation" (disregarding sign) was calculated.

Definition of "Flood" and "Drought"

If the actual rainfall during May to October in the district was in excess of the "normal rainfall" by $1\frac{1}{2}$ times the "mean deviation" or more, that year is called a "Flood" year. On the other hand if the actual rainfall was in deficit by $1\frac{1}{2}$ times the "mean deviation" or more, that year is called a "Drought" year. If the actual rainfall lies between (a) Normal rainfall plus $1\frac{1}{2}$ times the mean deviation and (b) Normal rainfall minus $1\frac{1}{2}$ times the mean deviation, the year is reckoned as a normal year.

Frequency of "Floods" and "Droughts" in Jalpaiguri

The following statement indicates the incidence of "Floods" and "Droughts" in each year in the district during the period 1891 to 1950. In any year in which the rainfall of the district has been more or less normal (neither Flood nor Drought) the space will be a blank.

1891—D	1901	1911	1921—F	1931	1941
1892	1902	1912	1922	1932	1942—D
1893	1903	1913	1923	1933	1943
1894	1904	1914	1924	1934	1944
1895	1905	1915	1925	1935	1945
1896—D	1906	1916—F	1926	1936	1946
1897	1907	1917	1927—F	1937	1947
1898	1908	1918	1928	1938—F	1948—F
1899	1909	1919	1929	1939	1949—F
1900—D	1910	1920	1930—D	1940	1950

Normal Rainfall—131.0"
Mean deviation—16.3
Limit for Abnormality—24.4 (i.e., $1\frac{1}{2}D$)

F—for Flood
D—for Drought

Number of Floods in 60 years—6
Number of Droughts in 60 years—5
Total number of Abnormalities—11 (i.e., Floods and Droughts)

Source :—Director of Meteorology, Poona.

**TABLE 3.14—PRODUCTION OF FOOD GRAINS DURING THREE DECADES
(IN THOUSAND MAUNDS)**

Year	Cereals										Pulses				Total food grains ('000 mds.)	Total food grains ('000 tons)		
	Rice		Other Cereals								Other Pulses							
	Autumn	Winter Summer	Total ('000 mds.)	Wheat	Barley	Jowar	Bajra	Ragi	Maize	Kharif	Rabi	Gram	Bhadai	Rabi			Total pulses ('000 mds.)	
1920-21	1,026.2	3,270.7	..	4,296.9	4.1	2.4	..	..	31.3	1.1	14.0	4,349.8	..	8.4	46.4	54.8	4,404.6	161.8
1930-31	1,005.1	2,393.6	..	3,398.7	4.4	2.9	..	..	21.2	0.5	10.0	3,437.7	..	4.6	39.5	44.1	3,481.8	127.9
1940-41	..	..	..	3,631.0	4.8	2.7	..	..	18.8	0.8	11.0	3,669.1	..	5.3	39.4	44.7	3,713.8	136.4

Source :—Directorate of Agriculture, West Bengal.

TABLE 4.1—SMALL SCALE INDUSTRIES

A—Classification of Industries by Locality

[Note.—The Census of Small Scale Industries was not taken in the following thanas and towns of Jalpaiguri district: Jalpaiguri (including Jalpaiguri town), Rajganj, Mal, Nagrakata and Alipur Duar town. The table below therefore gives an account of other thanas of the district.]

Serial No.	Name of Town or Thana	Total number of establishments	Number of Non-Textile establishments	Number of Textile establishments	Number of Handlooms in Textile establishments
1	2	3	4	5	6
JALPAIGURI DISTRICT					
<i>Rural Areas</i>					
1	Mainaguri	352	66	286	403
2	Dhupguri	20	19	1	5
3	Matiali	3	3	..	..
4	Alipur Duars	125	98	27	30
5	Kumargram	64	..	64	107
6	Madarhat	23	20	3	10
7	Falakata	62	37	25	52
8	Kalchini	1	1	..	..
<i>Urban Areas</i>					
			NIL		
Total		650	244	406	607

B—Textile Establishments

Industry group (Code No. and name)	Total No. of establishments	Persons employed					
		18 years and over		15 to 18 years		14 years and less	
		Males	Females	Males	Females	Males	Females
1	2	3	4	5	6	7	8
2.61 Cotton ginning, cleaning and pressing . . . . .	..	..	..	..	..	..	..
2.62 Cotton spinning, sizing and weaving	327	354	327	16	21	..	..
2.63 Cotton dyeing, bleaching, printing, preparation and sponging . . . . .	..	..	..	..	..	..	..
2.81 Jute pressing, baling, spinning and weaving . . . . .	..	..	..	..	..	..	..
2.82 Woollen spinning and weaving . . . . .	..	..	..	..	..	..	..
2.83 Silk reeling, spinning and weaving	79	82	106	..	..	..	..
2.84 Hemp and flax, spinning and weaving . . . . .	..	..	..	..	..	..	..
2.86 Manufacture of rope, twine, string and other related goods from cocoanut, aloes, straw, linseed and hair . . . . .	..	..	..	..	..	..	..
2.80 All other (including insufficiently described) textile industries . . . . .	..	..	..	..	..	..	..
Total	406	436	433	16	21	..	..

TABLE 4.1—SMALL SCALE INDUSTRIES—contd.

C—Non-Textile Establishments

Livelihood class and I.C.E.C. group code Number 1	Description of business (subgroup) 2	Total Number of establishments 3	Persons employed					
			18 years and over		15 to 18 years		14 years and less	
			Males 4	Females 5	Males 6	Females 7	Males 8	Females 9
Livelihood Class V (Production other than cultivation)								
2.1	2.11 Paddy dehussing	1	1	..	..	..	..	..
2.2	2.21 Oil making	38	62	1	1	..	..	..
2.4	2.43 Ice making	1	5	..	..	..	..	..
2.5	2.51 Biri making	14	87	7	2	..	..	..
2.9	2.92 Shoe making and repairing	6	20	..	..	..	..	..
3.0	3.01 Smithy	26	85	3	6	..	1	..
	3.02 Brass, bell, copper metal wares making	3	9	..	2	..	..	..
3.3	3.32 Cycle repairing	25	66	..	4	..	..	..
	Motor car repairing	4	11	..	..	..	..	..
	3.34 Cart wheel making	21	42	..	8	..	..	..
3.8	3.82 Soap making	11	46	..	4	..	5	..
	3.86 Candle making	1	1	..	1	..	..	..
4.0	4.03 Watch repairing	2	2	..	..	..	..	..
	4.04 Gold and Silver ornaments making	50	103	18	4	..	4	4
	4.05 Musical instruments making	6	11	4	4	..	2	4
	4.07 Toy making	2	3	..	1	..	1	..
	4.00 Conch shell articles making	2	3	1	..	..	..	..
4.4	4.41 Earthen wares making	7	9	2	3	..	1	..
4.6	4.62 Carpentry	13	41	3	3	..	..	..
	4.60 Bamboo products making	6	6	6	1	2	1	..
	Cane basket making	1	2	1	..	..	..	..
4.7	4.7 Furniture making	4	16	..	..	..	..	..
Total		244	631	46	44	2	15	8

TABLE 4.2—GROWTH OF FACTORIES—1940-49

Year	Seasonal		Perennial								Total
	Food, Drink and Tobacco	Gins and Presses	Govt. and Local Fund Factories	Engineering	Food, Drink and Tobacco	Chemicals, Dyes etc.	Paper and Printing	Processes relating to Wood, Stone and Glass	Processes connected with Hides and Skins	Gins and Presses	
1	2	3	4	5	6	7	8	9	10	11	12
1940	150	2	..	2	5	1	..	2	..	..	162
1941	150	2	1	1	5	..	..	2	..	..	161
1942	149	2	1	1	5	..	..	3	..	..	161
1943	150	2	1	1	6	..	..	6	..	..	166
1944	150	2	1	1	7	..	..	6	..	..	167
1945	150	2	5	1	4	..	..	7	..	..	169
1946	150	2	1	2	8	..	..	5	..	..	168
1947	149	2	1	2	5	..	..	5	..	..	164
1948	149	2	1	2	8	..	..	5	..	..	167
1949	..	..	..	4	157	1	2	8	1	2	175

Source :—State Statistical Bureau, West Bengal.

**TABLE 4.3—FACTORIES CLASSIFIED BY INDUSTRY WITH AVERAGE
DAILY NUMBER OF WORKERS IN EACH—1949**

Industry	Factories	Average daily number of Workers employed	Industry	Factories	Average daily number of Workers employed
1	2	3	1	2	3
I—Government and Local Fund Factories	..	..	<i>Processes connected with Skins and Hides</i>		
Total	..	..	Leather and shoes	1	21
II—All other Factories	..	..	Total	1	21
<i>Textiles</i>	..	..	
Total	..	..	
<i>Engineering</i>			<i>Gins and Presses</i>		
Electrical generating and transforming stations	1	20	Jute Presses	2	43
General Engineering	3	142	Total	2	43
Total	4	162			
<i>Minerals and Metals</i>			<i>Miscellaneous</i>		
Total	..	..	Total	..	..
<i>Food, Drink and Tobacco</i>			TOTAL (All Other Factories)	175	19,323
Bakeries, Biscuit and confectionary	1	22			
Rice mills	7	416			
Tea	149	18,309			
Total	157	18,747			
<i>Chemicals and Dyes etc.</i>					
Oil Mills	1	12	GRAND TOTAL		
Total	1	12	1949	175	19,323
<i>Paper and Printing</i>			1948	167	18,933
Printing and Book Binding, etc.	2	34	1947	164	18,183
Total	2	34	1946	168	17,291
<i>Processes relating to Wood, Stone and Glass</i>			1945	169	16,215
Cement, lime and potteries	2	93	1944	167	15,953
Saw Mills	5	124	1943	166	16,011
Miscellaneous	1	87	1942	161	14,651
Total	8	304	1941	161	14,599
			1940	162	13,336

Note—Above Statistics relate to Factories subject to Factories Act (XXV of 1943).

Source :—Office of the Chief Inspector of Factories.

**TABLE 4.4—AVERAGE DAILY NUMBER OF WORKERS EMPLOYED IN
DIFFERENT INDUSTRIES—1940-49**

Year	Seasonal		Perennial								Total
	Food, Drink and Tobacco	Gins and Presses	Govt. and Local Fund Factories	Engineer- ing	Food, Drink and Tobacco	Chemicals and Dyes etc.	Paper and Printing	Processes relating to Wood, Stone and Glass	Processes connected with Hides and Skins	Gins and Presses	
1	2	3	4	5	6	7	8	9	10	11	12
1940	. . 12,644	81	..	274	271	26	..	40	..	..	13,336
1941	. . 14,039	88	47	72	305	..	.	48	..	..	14,599
1942	. . 14,089	85	50	66	256	..	..	105	..	..	14,651
1943	. . 15,341	70	55	76	297	..	..	172	..	..	16,011
1944	. . 15,229	78	59	74	352	..	..	161	..	..	15,953
1945	. . 15,501	89	58	75	310	..	..	182	..	..	16,215
1946	. . 16,427	68	55	118	437	..	..	186	..	..	17,291
1947	. . 17,407	75	141	141	278	..	..	141	..	..	18,183
1948	. . 18,115	55	148	137	354	..	..	124	..	..	18,933
1949	. . ..	..	..	162	18,747	12	34	304	21	43	19,323

Figures for 1949 were compiled from the unpublished records of the office of the Chief Inspector of Factories.
Note—Workers employed by factories subject to Factories Act are only shown.

Source .—State Statistical Bureau, West Bengal.

***TABLE 4.5—AVERAGE DAILY NUMBER OF WORKERS EMPLOYED IN
JUTE MILLS BY CLASS**

* As there is no jute mill at Jalpaiguri, this table is not furnished for this district.

***TABLE 4.6—AVERAGE DAILY NUMBER OF WORKERS EMPLOYED IN
COTTON SPINNING AND WEAVING MILLS BY CLASS**

* As there is no cotton spinning and weaving mill at Jalpaiguri, this table is not furnished for this district.

**TABLE 4.7—PUBLIC ELECTRIC SUPPLY UNDERTAKINGS
THE JALPAIGURI ELECTRIC SUPPLY COMPANY, LIMITED
JALPAIGURI UNDERTAKING—1941-50**

Particulars	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1 Installed capacity of generating plants —KW	282.4	282.4	282.4	282.4	282.4	282.4	282.4	282.4	282.4	524.4
2 Capacity of each generating plant . . . . .	..	..	..	..	..	..	..	..	..	..
3 Installed capacity of transforming plant —KW	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
4 Capacity of each transforming plant	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5 Total energy generated—KWH	297,866.6	280,973.5	312,229.7	390,750.34	363,154.7	358,133.8	388,150.2	448,805.3	507,444.8	530,314.8
6 Total energy sold—KWH	253,014.94	233,664.112	262,492.664	340,423.492	315,814.47	317,206.81	344,021.66	404,643.59	451,534.06	461,586.94
7 Maximum demand—KW	101.13	103.0	107.78	123.56	119.4	126.56	166.22	188.7	190.41	236.62
8 Number of substations in converting stations	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
9 Number of miles of high tension cable or overhead lines (approx.)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
10 Number of miles of low tension cable or overhead line (miles) Cable= 800 yds. O/H= 12 miles	800 yds. 12 miles	800 yds. 12 miles	900 yds. 12 miles	800 yds. 12 miles	800 yds. 12 miles	800 yds. 12 miles	800 yds. 12 miles	800 yds. 12 miles	800 yds. 12 miles	800 yds. 12 miles
11 Number of superior technical staff (officers)	2	2	1	1	1	1	1	1	1	1
12 Number of supervisory technical staff	3	3	3	3	3	3	3	3	3	3
13 Number of workers at generating plant	11	11	11	11	12	14	14	15	19	21
14 Number of workers at substation or transforming station	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
15 Number of domestic consumers	555	581	588	591	591	613	634	683	697	782
16 Number of industrial consumers	14	12	12	13	13	13	13	13	13	15

**TABLE 4.7—PUBLIC ELECTRIC SUPPLY UNDERTAKINGS—concd.
THE JALPAIGURI ELECTRIC SUPPLY COMPANY, LIMITED
JALPAIGURI UNDERTAKING—1941-50**

Particulars	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
17 Energy consumed by domestic lights and fans	55,515.22	60,844.06	69,828.37	83,242.019	101,595.87	98,752.47	112,368.941	134,711.73	158,611.07	160,637.15
18 Energy consumed by domestic heat and small power	4,622.2	4,610.62	4,395.87	4,798.00	2,839.37	3,123.76	3,440.59	3,808.88	3,402.7	3,864.03
19 Energy consumed by commercial lights and fans	64,605.68	56,641.85	64,762.42	75,703.38	78,720.03	84,341.37	101,745.6	121,035.78	131,430.7	142,114.95
20 Energy consumed by commercial heat and small power	16,079	14,977.65	9,042	6,818	6,804	5,422.8	6,130.2	6,642	8,369	12,212.4
21 Energy consumed by Industrial power at low and medium voltage	16,884.5	15,256.75	23,708	74,693	32,920	23,573	16,504	24,248.5	24,106	21,610
22 Energy consumed by Industrial power at high voltage . . . . .	..	..	..	..	..	..	..	..	..	..
23 Energy consumed in public lighting	492,85.34	28,731.882	35,241.004	28,882.093	24,072.2	30,331.41	32,480.33	43,249.7	49,679.59	48,441.41
24 Energy consumed in public water works and sewage pumping	46,023	52,602	55,515	66,287	68,863	71,662	71,352	70,947	75,935	73,007
25 Energy supplied in bulk to distributing licensees	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
26 Energy used for auxiliaries in power station	29,424	26,879	28,400	16,801.16	25,059.4	25,160.7	14,677.9	15,312.7	15,904.7	16,363.4
27 Net capital expenditure (Rs.)	187,172	202,423	210,771	211,344	213,777	219,433	231,238	262,923	284,538	319,336
28 Gross Revenue (Rs.)	64,434	68,909	68,689	90,716	107,646	108,103	111,629	137,136	154,347	157,635
29 Gross Expenditure (Rs.)	46,469	54,958	58,116	72,727	80,993	96,138	101,599	120,700	139,869	165,018
30 Gross Profit (Rs.)	25,910	21,536	18,881	24,339	30,574	21,317	20,346	35,351	33,119	7,955

Source :—Electricity Development, Government of West Bengal

ADMINISTRATION
TABLE 5.1—LAND REVENUE—1941-50

Particulars	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51
1	2	3	4	5	6	7	8	9	10	11
<i>Permanently Settled Estates</i>										
Current—										
Number . . .	77	77	77	77	77	77	77	29	20	24
Demand . . .	136,337	136,337	136,335	136,335	136,335	136,335	136,335	5,207	5,207	29,153
Collection . . .	136,303	136,274	136,302	136,335	136,218	136,305	109,846	5,183	5,128	29,067
<i>Temporarily Settled States</i>										
Current—										
Number . . .	178	178	178	178	178	178	178	178	178	178
Demand . . .	500,315	500,293	509,806	509,807	509,807	509,928	509,928	509,928	509,925	511,610
Collection . . .	500,208	500,293	509,806	509,807	509,807	509,928	509,928	509,928	509,895	511,610
<i>Estates held directly by Government</i>										
Current—										
Number . . .	13	13	13	13	13	13	13	9	9	9
Demand . . .	884,709	877,611	885,162	887,802	890,448	892,410	892,816	892,558	894,233	897,383
Collection . . .	313,000	502,539	543,524	730,325	645,370	679,409	778,523	685,682	601,106	716,707
<i>Road and Public Works Cess</i>										
Current—										
Number . . .	543	536	541	541	550	550	550	335	335	345
Demand . . .	226,457	226,467	226,467	226,467	298,575	298,772	294,686	180,194	180,211	221,969
Collection . . .	215,619	215,704	217,562	218,226	270,453	271,868	251,981	162,268	148,286	204,869

Source :— Finance Department, West Bengal.

TABLE 5.2—CRIMINAL JUSTICE—NUMBER OF CRIMINAL CASES TRIED
(Figures for 1941-44 were not readily available)

A—SERIOUS CRIMES	1945	1946	1947	1948	1949	1950
<i>I—Cognizable cases</i>						
(a) Offences against State, public tranquillity, safety and justice	19	31	24	52	39	60
(b) Serious offences against the person	84	68	68	108	122	141
(c) Serious offences against the person and property or against property only	424	459	389	593	529	630
<i>II—Non-Cognizable cases</i>						
(a) Offences against State, public tranquillity, safety and justice . . . . .	..	..	41	12	42	72
(b) Serious offences against the person . . . . .	..	..	1	9	..	..
(c) Serious offences against the person and property or against property only . . . . .	..	..	10	3	5	4
Total of I & II	526	558	553	777	737	907
B—MINOR CRIMES						
<i>I—Cognizable cases</i>						
(a) Minor offences against the person	2	3	2	3	3	9
(b) Minor offences against property	396	329	352	482	429	531
(c) Other offences not specified above	279	337	319	331	577	430
<i>II—Non-Cognizable cases</i>						
(a) Minor offences against the person . . . . .	..	..	155	42	155	104
(b) Minor offences against property . . . . .	..	..	81	18	59	70
(c) Minor offences not specified above . . . . .	..	..	936	480	1,591	1,371
Total of I & II	677	669	1,845	1,356	2,814	2,515

Compiled by the Deputy Commissioner, Jalpaiguri.

TABLE 5.3—CRIMINAL JUSTICE

Offence or Nature of Proceedings	Persons convicted or bound over in									
	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1	2	3	4	5	6	7	8	9	10	11
<i>ALL OFFENCES</i>										
Offences against public tranquillity	97	32	31	16	5	35	3	120	263	43
Murder	2	7	4	5	10	2	6	6	1	1
Culpable homicide	1	2	7	7	6	4	8	9	11	4
Rape . . . . .	..	2	1	..	..	3	1	1	1	1
Hurt with aggravating circumstances	26	22	12	7	9	16	14	12	30	29
Hurt with criminal force or assault	14	12	10	6	9	6	36	22	20	17
Dacoity	1	..	15	5	2	3	10	17	7	..
Robbery . . . . .	..	..	4	..	3	2	..	1	1	1
Theft	153	179	222	153	161	134	124	146	127	138
Other offences against the Indian Penal Code	27	48	37	18	17	81	34	25	66	37
Bad livelihood . . . . .	..	1	5	..	8	1	6	1	1	2
Keeping the Peace . . . . .	..	1	3	3	..	1	8	3	19	8
Salt Law . . . . .	..	..	..	..	..	..	..	..	..	..
Excise Law . . . . .	..	..	..	..	..	..	..	..	253	254
Stamp Law . . . . .	..	..	..	..	..	..	..	..	..	..
Municipal Law . . . . .	..	..	..	..	..	..	..	..	106	141
Other Offences	214	534	415	269	405	232	499	571	400	1,374

Note—For persons convicted in offences under (1) Salt Law (2) Excise Law (3) Stamp Law (4) Municipal Law during the years 1941-48 the records are not available.

Source —Superintendent of Police, Jalpaiguri.

TABLE 5.4—CIVIL JUSTICE

	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
I—Money Suits	640	531	712	721	605	629	1,075	464	627	436
II—Rent Suits	4,875	4,838	4,944	3,506	3,057	3,231	2,896	638	770	736
Total	5,515	5,369	5,656	4,227	3,662	3,860	3,971	1,102	1,397	1,172
(a) For enhancement of rent . . . . .	..	..	..	..	..	..	..	..	..	..
III—Title & other suits	354	410	529	515	532	421	413	263	329	220

Source .—District Judge, Jalpaiguri.

TABLE 5.5—STRENGTH OF POLICE IN 1950

Thana	Description of the staff										Total	No. of Unions	No. of Chaukidars	No. of Dafadars
	S. P.	A. S. P.	D. S. P.	Insp.	S. I.	Sgt.	A. S. I.	H. C.	Naik	Const.				
Jalpaiguri	1		2	1	7	..	9	4	..	87	111	12	114	13
Rajganj . . . . .	..			..	2	..	5			34	41	10	103	10
Moinaguri . . . . .	..			1	2		3			14	20	10	120	15
Dhupguri . . . . .		..		..	2		2	..	..	12	16	7	78	11
Mal					2	..	2	..		12	16	9	14	9
Nagrakata					1	..	1		..	8	10	2	14	2
Matiali . . . . .				..	1		1	..		8	10	3	14	3
Alipur Duars . . . . .	..			1	4	..	3	..	..	16	24	14	104	14
Falakata . . . . .	..			..	1	..	2	..	..	10	13	9	75	9
Madarihat . . . . .	..			..	1	..	2	..	..	10	13	6	25	2
Kalchini . . . . .	..			..	1	..	1	..	..	10	12	4	13	2
Kumargram . . . . .	..			..	1	..	1	..	..	10	12	8	30	4
Court . . . . .	..			1	6	..	5	1	..	18	31	..	..	..
Reserve . . . . .	..			..	2	..	1	..	..	..	3	..	..	..
Miscellaneous . . . . .	..			..	9	..	1	..	..	83	93	..	..	..
D. I. B. . . . .	..			1	6	..	6	..	..	29	42	..	..	..
Special Armed Forces . . . . .	..			..	..	..	..	..	..	350	404	..	..	..
Total	1	..	2	7	51	..	45	30	24	711	871	94	704	94

Source :—Inspector General of Police, West Bengal.

TABLE 5.6—JAILS

Name and class of Jail	Accommodation in 1950			Daily average number of prisoners in									
	Total	Males	Females	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
	2	3	4	5	6	7	8	9	10	11	12	13	14
Jalpaiguri district jail	298	291	7	215.85	221.99	316.59	269.24	223.62	224.27	254.49	232.43	335.19	249.19
Alipur Duar Sub-Jail	33	27	6	21.29	22.52	32.01	34.94	37.30	30.34	49.52	50.96	60.44	81.93

Source :—Prisons Directorate, West Bengal.

TABLE 5.7—NUMBER AND DESCRIPTION OF REGISTERED DOCUMENTS AND VALUE OF PROPERTIES TRANSFERRED IN 1949

Number of registration offices	Number of Registration					Aggregate value of property transferred by registered documents							
	Immovable Property			Movable property	Wills	Total	Affecting immovable property	Affecting movable property	Total	Total amount of ordinary fees	Total of other receipts	Total receipts	Total expenditure
	Compulsory	Optional	Total										
							Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
3	11,102	22	11,124	436	13	11,573	6,463,953	344,714	6,808,667	52,740	11,453	64,193	30,317

Source :—Annual Report on the working of the Registration Department

TABLE 5.8—CO-OPERATIVE SOCIETIES IN 1949-50

Description	No. of Societies at the end of the year	No. of members	Working Capital (Rupees)				Loans issued to members and other Societies
			Loans from private persons, other Societies and Banks	Share Capital paid up	Reserve and other funds	Total	
1	2	3	4	5	6	7	8
Central Banks	1	168	166,365	32,810	17,892	217,067	Rs. 116,527
Agricultural Societies	217	3,780	75,310	40,216	65,881	181,407	87,999
Non-Agricultural Societies	5	1,469	94,354	40,814	30,274	165,442	109,044
Total	223	5,417	336,029	113,840	114,047	563,916	313,570

Note—Figures for Agricultural Societies include credit and exclude credit grain.
Figures for Non-Agricultural Societies include only credit.

Source :—Registrar of Co-operative Societies, West Bengal.

**TABLE 5.9—EXCISE RECEIPTS
(IN RUPEES)**

Serial No.	Excise articles	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51
1	2	3	4	5	6	7	8	9	10	11	12
1	Imported liquors	1,654	2,952	4,475	6,025	9,778	22,284	47,524	79,376	120,216	142,212
2	Country Spirits—										
(a)	Duty on Country Spirits	199,873	266,588	385,449	519,224	645,865	724,224	557,973	681,846	735,155	947,038
(b)	Distillery and license fees on Country Spirits	96,046	148,181	77,240	70,993	32,183	41,550	414,33	400,14	47,895	59,245
(c)	Receipts in outstill areas	..	..	..	..	..	..	..	..	..	..
3	Tari	..	..	..	..	..	..	..	..	..	..
4	Pachwai	42,599	40,902	6,583	43,509	45,397	810	34,851	24,508	39,584	42,488
5	Opium—										
(a)	Duty	30,591	34,196	33,486	55,671	68,352	71,936	93,518	116,904	126,163	130,436
(b)	License fees	9,250	10,688	7,740	7,784	7,268	7,813	9,051	9,665	8,316	8,871
6	Hemp Drugs—Total	32,290	36,640	59,234	87,524	98,133	102,370	108,841	115,538	70,414	51,002
6	Hemp Drugs	20,533	23,395	45,233	77,140	89,212	92,892	99,450	107,183	65,533	46,379
	License fees	11,757	13,245	14,001	10,384	8,921	9,478	9,391	8,355	4,881	4,623
(a)	Ganja—										
	Duty	20,501	23,360	45,179	77,044	88,974	92,625	99,142	106,663	64,795	45,799
	License fees	11,611	13,065	13,821	10,127	8,697	9,237	9,118	7,957	4,432	4,191
(b)	Charas—										
	Duty	..	..	..	..	..	..	..	..	..	..
	License fees	..	..	..	..	..	..	..	..	..	..
(c)	Bhang—										
	Duty	32	35	54	96	238	267	308	520	738	580
	License fees	146	180	180	257	224	241	273	398	449	432
7	Miscellaneous including cocaine, methylated spirits, beer and medicated wines	1,815	2,609	1,463	3,073	2,548	2,058	3,850	4,534	12,068	16,170

Source :—Excise Directorate, West Bengal.

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**TABLE 5.10—RECEIPTS OF SALES TAX
(IN RUPEES)**

1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	August 1947-48	1948-49	1949-50	1950-51
..	17,400	86,414	92,081	143,867	221,999		278,175	684,214	826,124	849,067

Note—The figures for 1941-42 to 1945-46 are estimated.

Source :—Commissioner of Commercial Taxes, West Bengal.

**TABLE 5.11—RECEIPTS OF ENTERTAINMENT TAX
(IN RUPEES)**

1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	August 1947-48	1948-49	1949-50	1950-51
43	19	12	2,717	8,191	10,091		8,693	13,574	20,937	98,590

Note—The figures for 1941-42 to 1945-46 are estimated.

Source :—District Magistrate, Jalpaiguri.

**TABLE 5.12—RECEIPTS OF MOTOR SPIRIT TAX
(IN RUPEES)**

1940-41	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	August 1947-48	1948-49	1949-50	1950-51
..	3,238	9,007	17,391	18,111	32,628		99,386	141,841	234,148	318,026

Note—The figures for 1941-42 to 1945-46 are estimated.

Source :—Commissioner of Commercial Taxes, West Bengal.

**TABLE 5.13—STAMPS
(IN RUPEES)**

Class of Stamps	1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1949-50 1950-51										
	1	2	3	4	5	6	7	8	9	10	11
Judicial
Non-judicial

Source :—Finance (Taxation) Department.

TABLE 5.14—INCOME-TAX

Particulars	1941-42 1942-43 1943-44 1944-45 1945-46 1946-47 1947-48 1948-49 1949-50 1950-51										
	1	2	3	4	5	6	7	8	9	10	11
Number of assesseees
Net collection Rs. (in thousands)

Source :—Commissioner of Income-tax, West Bengal.

EDUCATION AND ENTERTAINMENT
TABLE 6.1—PUBLIC INSTITUTIONS AND PUPILS IN 1950-51

Class of Institutions	Under the management of Govt. or Local Bodies						Under private management			
	Total		Managed by Govern- ment		Managed by Muni- cipalities and District School Board		Aided by Govern- ment and District or Municipal Board		Unaided	
	No. of Institu- tions	No. of Pupils	No. of Institu- tions	No. of Pupils	No. of Institu- tions	No. of Pupils	No. of Institu- tions	No. of Pupils	No. of Institu- tions	No. of Pupils
1	2	3	4	5	6	7	8	9	10	11
Colleges	2	514	1	13	..	..	1	501	..	..
H. E. Schools	17	6,233	3	766	14	5,467	..	..	..	..
M. E. Schools	37	2,318	..	..	..	..	30	2,138	7	180
Primary Schools	656	36,870	3	316	1	168	652	36,386	..	..
Technical Schools	1	128	..	..	..	..	1	128	..	..
Training Schools	1	39	1	39	..	..	..	..	..	..
Other Schools	53	2,217	41	1,225	..	..	3	33	9	959

Source :— Education Directorate, West Bengal

TABLE 6.2—EDUCATION (NUMBER OF INSTITUTIONS AND PUPILS)—1941-50

Class and number of Institutions with number of pupils	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51
1	2	3	4	5	6	7	8	9	10	11
GRAND TOTAL										
Institutions	910	891	908	901	895	625	646	723	767	788
Pupils	42,830	41,458	25,423	40,973	45,099	32,183	42,296	49,590	47,932	49,247
Public Institutions										
Institutions	904	885	900	893	887	618	636	703	737	764
Pupils	42,618	41,223	35,124	40,704	44,737	31,828	41,915	48,804	47,180	48,119
Colleges										
Institutions	..	1	1	1	1	1	1	1	1	2
Pupils	..	91	211	263	310	339	582	725	717	514
H. E. Schools										
Institutions	7	7	9	9	11	10	13	14	17	17
Pupils	1,811	2,135	1,533	2,953	3,067	2,988	5,365	6,581	5,955	6,233
M. E. Schools										
Institutions	28	28	35	35	35	21	24	27	34	37
Pupils	3,625	3,403	1,940	4,724	4,877	3,442	3,742	3,915	1,836	2,318
Primary Schools										
Institutions	855	835	841	834	826	572	588	653	640	656
Pupils	36,802	35,219	31,060	32,384	36,238	24,690	31,937	37,102	37,425	36,870
Technical Schools										
Institutions	..	..	..	..	..	..	..	..	..	1
Pupils	..	..	..	..	..	..	..	..	..	128
Training Schools										
Institutions	2	2	2	2	2	2	2	1	1	1
Pupils	80	75	80	80	45	69	80	40	40	39
Other Schools										
Institutions	15	15	15	15	15	15	11	10	47	53
Pupils	457	483	447	414	397	498	409	641	1,407	2,217
Unrecognised Schools										
Institutions	3	3	5	5	5	4	7	17	27	21
Pupils	55	52	152	155	165	157	181	586	552	928
Percentage of male Pupils to male population of school- going age (5 to 14) of 1951	27	26	16	25	27	19	25	29	27	28
Percentage of female Pupils to female population of school- going age (5 to 14) of 1951	10	10	7	11	12	9	12	14	14	15

Source :— Education Directorate, West Bengal.

TABLE 6.3—DIRECTORY OF HIGH SCHOOLS

Note on compilation—The Census Department framed a questionnaire which the Director of Public Instruction addressed to all schools. The replies were tabulated and this table is based solely on the returns received from schools. No attempt has been made to check the returns with the records of the Education Directorate. The information furnished by each school is therefore without authoritative verification.

ABSTRACT FOR JALPAIGURI DISTRICT

Subdivision	No of Schools	Total No. of classes including sections	Average No. of pupils for years 1946-50	Total No. of Teachers	No. of Graduate Teachers	No. of trained Graduates	Total Government grants received 1946-47 to 1950-51 (Rs.)	Total of private donations received or raised 1948-49 to 1950-51 (Rs.)
	2	3	4	5	6	7	8	9
ALL AREAS								
DISTRICT	17	186	5,457	256	157	60	461,679	182,974
Sadar	14	143	4,400	205	128	51	335,835	166,111
Alipur Duars	3	43	1,057	51	29	9	125,844	16,863
RURAL AREAS								
DISTRICT	10	85	2,166	115	61	15	150,738	138,655
Sadar	9	73	1,856	101	57	14	126,909	128,357
Alipur Duars	1	12	310	14	4	1	23,829	10,298
URBAN AREAS								
DISTRICT	7	101	3,291	141	96	45	310,941	44,319
Sadar	5	70	2,544	104	71	37	208,926	37,754
Alipur Duars	2	31	747	37	25	8	102,015	6,565

monies spent on schools run wholly by the Government.

Schools in P. S. Naerakata and Matiali of Sadar Subdivision and in P. S. Malarihat, Falakata, Kalchi and Kumergram of Alipur Duar Subdivision.

SUBDIVISION—SADAR

1	L. No 'ard No.	Municipa'											
			Nam	Schoo	Date of origin	Date of affiliation to C. U.	Total No. of classes including sections	Average No. of pupils for years 1946-50	Total No. of Teachers	No. of Graduate Teachers	No. of trained Graduates	Total Govt. grants received 1946-47 to 1950-51	Total of private donations received or raised 1948-49 to 1950-51
1											10	11	12
P. S.—JALPAIGURI													
1	Jalpaiguri Municipality	Sonaulla H. E. School	.	January 1920	1-1-29	18	595	20	15	10	Rs. 59,498	Rs. 7,299	
2	Do.	Jalpaiguri Govt. Girls' H. E. School	.	11-5-48	1-1-48	8	147*	17	11	7	Govt. School		
3	Do.	Jalpaiguri Zilla School	.	1876	Not found	8	298	14	13	12	Govt. School		
4	Do.	Jalpaiguri Girls' H. E. School	.	28-6-25	31-12-27	17	592	26	12	4	88,158	19,180	
5	Do.	Jalpaiguri Fanindra Deb Institution	.	Jan. 1917	1920	19	912	27	20	4	61,270	11,275	
Total for Thana												37	208,926
Total for Urban areas												37	208,926
Total for Rural areas												37	37,754

*Average for 3 years 1948—1950.

TABLE 6.3—DIRECTORY OF HIGH SCHOOLS—concl'd.

No.	L. No. Municipal Ward No.	Name of School	Date of Origin	Year of Affiliation	Total No. of sections	Average No. of pupils per year 1946-50	Total No. of Teachers	No. of Graduates	No. of Trainees	Total Govt. grants 1946-47 to 1950-51	Total of pupils received on 1-1-51 to 1950-51
				5					10	11	12
SUBDIVISION—SADAR —concl'd.											
P. S. RAIJANJ											
1	J. L. 9	Belakoba High School	1-1-41	28-12-43	6	144	9	5	1	Rs. 18,619	Rs. 16,314
	Chhat Guzmari										
	Total for Thana	1	..	..	6	144	9	5	1	18,619	16,314
	Total for Urban areas	..	..	..	..	..	..	..	..	..	..
	Total for Rural areas	1	..	..	6	144	9	5	1	18,619	16,314
P. S. MOINAGURI											
1	J. L. 50 Penchahati	Jorepakri Abdul Gony H. E. School	4-1-46	1-1-47	6	131	8	5	..	21,077	10,102
2	J. L. 19, Mainaguri	Mainaguri H. E. School	1890	7-5-48	6	211	9	7	3	22,783	740
3	J. L. 53, Baikur Gaurgram	Helapakri Padamati Union Rahumuddin H. E. School	1-1-48	1-1-50	10	*220	11	6	1	10,823	..
4	J. L. 13, Domohani	Polwhele H. E. School, Domohani	1927	11-12-33	7	235	12	10	4	8,400	..
5	J. L. 51, Dharampur	Dharampur A. K. H. E. School	1891	19-2-45	6	102	8	3	..	11,819	11,517
	Total for Thana	5	..	..	35	899	48	31	8	74,902	22,359
	Total for Urban areas	..	..	..	..	..	..	..	..	..	..
	Total for Rural areas	5	..	..	35	899	48	31	8	74,902	22,359
* for 3 years, 1948-50.											
P. S. DHUPGURI											
1	J. L. 156, Banarhat Tea Garden	Banarhat H. E. School	26-1-49	1-1-50	14	*333	16	6	1	4,480	38,793
2	J. L. 222, Dhupguri	Dhupguri H. E. School	21-1-45	1-1-46	6	186	10	4	1	24,609	7,964
	Total for Thana	..	..	..	20	519	26	10	2	29,089	46,757
	Total for Urban areas	..	..	..	..	..	..	..	..	..	..
	Total for Rural areas	..	..	..	20	519	26	10	2	29,089	46,757
*Average for 2 years, 1949-50.											
P. S. MAL											
1	J. L. 60, Hai Haipathar	Adarsha Bidyabhaban, Mal	23-1-48	1-1-50	12	*294	18	11	3	4,299	42,927
	Total for Thana	1	..	..	12	294	18	11	3	4,299	42,927
	Total for Urban areas	..	..	..	..	..	..	..	..	..	..
	Total for Rural areas	1	..	..	12	294	18	11	3	4,299	42,927
*Average for 3 years, 1948-50.											
P. S. ALIPUR DUARS											
SUBDIVISION—ALIPUR DUARS											
1	J. L. 99, Alipurduar	Alipurduar High School	Jan. 1916	1916	16	420	18	12	3	63,365	600
2	J. L. 165, Chepari	Mahakalguri Mission H. E. School	1921	1948	12	310	14	4	1	23,829	10,298
3	J. L. 99, Alipurduar	Mc. William High School	28-9-37	1-1-47	15	327	19	13	5	38,650	5,965
	Total for Thana	3	..	..	43	1,057	51	29	9	125,844	16,863
	Total for Urban areas	2	..	..	31	747	37	25	8	102,015	6,565
	Total for Rural areas	1	..	..	12	310	14	4	1	23,829	10,298

Source :—Director of Public Instruction, West Bengal.

TABLE 6.4—PRINTING PRESSES AT WORK, NEWSPAPERS AND PERIODICALS PUBLISHED IN 1950-51

Number of Printing Presses at work	Number of Newspapers published	Number of Periodicals published
------------------------------------	--------------------------------	---------------------------------

15

Source :—Home (Press) Department.

TABLE 6.5—CINEMAS 1950*

Number of Cinema Houses (in December 1950)	Number of Spectators (Monthly average)
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48,207

*Provisional

Source :—District Office.

PUBLIC HEALTH TABLE 7.1—NUMBER OF HOSPITALS AND DISPENSARIES IN 1949

State	Prov.	A.G.	F.R.E.	State Special	Local and Municipal Funds including U.B. and Village	Private aided	Private unaided	Railways	Total	Health Centres
			..	8	14	6	1		32	

Source :—Office of the Director of Health Services, West Bengal.

TABLE 7.2—RURAL HEALTH CENTRES IN 1950

Serial No.	Subdivision	Police Station	Union	Names of Health Centres	No. of beds
1	Sadar	Moinaguri	Domahani	Singhimari at Chapra Health Centre	

Source :—Directorate of Health Services, West Bengal.

TABLE 7.3—LIST OF HOSPITALS AND DISPENSARIES IN 1951

Serial No.	Subdivision, Police Station, or Town	Union	Hospitals, Name of place and J. L. No.	Dispensaries, Name of place and J. L. No.	Beds		Maintained by	Medical Officer's qualifications
					General	Infectious		
SADAR SUBDIVISION								
1	Jalpaiguri	..	General	..	136	15	State	A.S.
2	Do.	..	Police	..	28		Do.	S.A.S.
3	Do.	..	Jail	..	50		Do.	S.A.S.
4	Do.	..	Jalpaiguri A G.	..	50	10	Do.	M.B.
5	Do.	Mantadari	..	Baikunthapore	..		Private	L.M.F.
6	Do.	Do.	..	Rangdhamali	..		Union Board	L.M.F.
7	Dhupguri	Sakojorah	..	Gairkata	..		State	L.M.F.
8	Do.	Dhupguri	..	Dhupguri	..		Khas Mahal	L.M.F.
9	Do.	Do.	..	Dawkimari	..		Union Board	L.M.F.
10	Rajganj	Sukhani	..	Rajganj	..		District Board	L.M.F.
11	Do.	Shikerpore	..	Shikerpore	..		Union Board	L.M.F.
12	Do.	Sanyasikata	..	Gadra	..		Do.	L.M.F.
13	Matiali	Mitiali	..	Mitialihat	..		Khas Mahal	L.M.F.
14	Do.	Do.	..	Rangomchona plantation	..		State	S.A.S.
15	Mal	Mal	..	Mal	..		District Board	L.M.F.
16	Do.	Chengmari	..	Chengmari	..		Private	L.M.F.
17	Nagrakata	Union No. 1	..	Nagrakata	..		District Board	L.M.F.
18	Momaguri	Mainaguri	..	Momaguri	..		Private	L.M.F.
19	Do.	Madhabdanga	..	Jalpesh	..		Private	L.M.F.
20	Do.	Ramshat	..	Ramshat	..		Union Board	L.M.F.
21	Do.	Dharampur	..	Dharampur	..		Do.	L.M.F.
22	Do.	Churabhandar	..	Huchubdanga	..		Union Board	L.M.F.
23	Do.	Padamati	..	Padamati	..		Do.	L.M.F.
ALIPUR DUARS SUBDIVISION								
24	Alipur Duars	Alipur Duars	Alipur Duars	..	11		State	S.A.S.
25	Do.	..	Alipur Duars Jail	..	2		Do.	S.A.S.
26	Do.	Santalpore	..	Sakuntala	..		District Board	L.M.F.
27	Do.	Bhatibari	..	Bhatibari	..		Do.	L.M.F.
28	Do.	Sibbari	..	Sibbari	..		Private	L.M.F.
29	Kalchini	Latabari	..	Rajbhatkhowa	..		State	S.A.S.
30	Madarihat	Madarihat	..	Madarihat	..		District Board	L.M.F.
31	Kumargram	Kumargram	Kumargram	..	..		Private	L.M.F.
32	Falakata	Raichanga	..	Falakata	..		Do.	..

Source :—Directorate of Health Services, West Bengal.

LOCAL BODIES
TABLE 8.1—RECEIPTS AND EXPENDITURE OF DISTRICT BOARD —1941-50
(IN RUPEES)

Particulars	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50	1950-51
I	2	3	4	5	6	7	8	9	10	11
A Receipts all sources	531,859	490,273	478,358	489,977	509,618	539,278	402,165	564,223	434,511	489,242
(a) Land Revenue	761	1,873	..	1,365	3,637	4,222	5,993	10,038	9,731	1,074
(b) Local Rates	283,008	313,165	290,690	300,388	286,541	288,831	123,336	316,984	203,150	223,012
(c) Interest	1,408	1,407	898	517	281	394	143	580	270	339
(d) Law and Justice	1,991	2,005	1,029	1,092	1,659	657	2,372	2,012	3,132	1,650
(e) Police	16,445	16,716	15,621	17,379	14,402	11,330	16,116	11,059	10,714	7,778
(f) Education	1,344	1,363	..	..	..	..	..	..	..	..
(g) Public Health	42,608	44,451	50,034	55,032	49,594	54,544	50,886	41,493	52,147	54,000
(h) Medical	14,607	14,762	14,500	15,134	17,304	17,036	13,857	6,315	8,303	7,474
(i) Scientific and other minor departments	170	143	173	126	948	987	454	1,613	325	1,605
(j) Pension Contribution	..	..	..	..	..	..	..	..	..	..
(k) Stationery and Printing	..	226	130	1,695	18,937	24,562	26,326	29,941	25,331	25,866
(l) Miscellaneous	440	..	..	..	..	..	..	..	..	..
(m) Railways	..	..	..	..	..	..	..	..	..	..
(n) Irrigation and minor works	169,077	94,162	105,283	97,249	116,315	136,715	162,682	144,178	121,408	166,444
(o) Civil Works	..	..	..	..	..	..	..	..	..	..
B Expenditure all sources	589,246	409,681	378,838	471,918	489,787	503,295	501,275	472,996	514,389	415,086
(a) Refunds and Drawbacks	..	..	..	..	..	..	..	..	..	..
(b) Administration	20,490	20,530	17,808	21,904	23,387	25,014	25,045	24,093	25,649	24,087
(c) Law and Justice	277	283	118	240	1,145	530	860	679	926	298
(d) Police	738	707	691	736	715	733	1,051	1,305	1,400	1,406
(e) Ports and Pilotage	..	..	..	..	..	..	..	..	..	..
(f) Education	15,347	13,252	12,616	16,354	17,110	16,522	10,712	16,034	19,037	375
(g) Medical	38,491	39,925	41,820	45,057	46,939	56,993	53,758	60,522	58,315	47,527
(h) Public Health	80,363	82,246	86,164	110,845	120,437	127,158	117,174	117,317	131,398	119,598
(i) Scientific and other minor departments	4,627	5,037	3,692	4,766	4,806	4,243	4,986	4,741	6,026	4,886
(j) Pension etc.	15,090	11,981	11,389	9,274	9,805	12,986	13,328	13,128	18,625	14,038
(k) Stationery and Printing	4,788	11,981	11,389	9,274	9,805	12,986	13,328	13,128	18,625	14,038
(l) Miscellaneous	8,160	8,200	19,924	2,615	3,197	2,227	1,868	3,637	2,029	1,665
(m) Famine Relief	300	..	..	8,215	8,100	8,750	3,900	5,900	5,169	42,529
(n) Railways	..	..	..	..	..	..	778	..	..	..
(o) Minor Works and Navigation	..	..	..	..	..	..	..	..	..	..
(p) Civil Public Works	400,575	226,268	179,776	251,912	254,146	248,139	267,815	225,640	245,815	158,677

Source :—Commissioner, Presidency Division.

TABLE 8.2—RECEIPTS AND EXPENDITURE OF MUNICIPALITIES—1941-50 ,.

Serial No.	Name of Municipality	1941-42		1942-43		1943-44		1944-45		1945-46	
		Receipt	Expenditure	Receipt	Expenditure	Receipt	Expenditure	Receipt	Expenditure	Receipt	Expenditure
1	2	3	4	5	6	7	8	9	10	11	12
1	Jalpaiguri	104,468	113,038	104,972	104,059	128,934	123,034	152,533	142,874	169,652	167,741

Serial No.	Name of Municipality	1946-47		1947-48		1948-49		1949-50		1950-51	
		Receipt	Expenditure	Receipt	Expenditure	Receipt	Expenditure	Receipt	Expenditure	Receipt	Expenditure
		13	14	15	16	17	18	19	20	21	22
1	Jalpaiguri	167,225	188,781	214,519	208,287	264,943	247,305	251,336	244,350	323,313	301,020

Source :—Deputy Commissioner, Jalpaiguri.

COMMUNICATIONS
TABLE 9.1—VILLAGE ROADS
Sadar Subdivision

Serial No.	Name of Road	Serial No.	Name of Road
1	Jalpaiguri Sylhet Road	28	Jalpaiguri Chengrabandha Road
2	Jalpaiguri Berubari Road	29	Bhotepatty Helapakri Road
3	Jalpaiguri Silguri Road	30	Momaguri Cheugrabandha Road
4	Jalpaiguri Kasiabari Road	31	Kranti Neora Road
5	Jalpaiguri Chaulhati Road	32	Road from Huchludanga to Mainaguri Chongrabandha Road via Saptibari
6	Jalpaiguri Rangohamali Road	33	Nathowa Paner hat Road
7	Central Emigration Road	34	Dhupguri Nathowa Road
8	Berubari Madarganj Road	35	Salbari Lakshipur Road
9	Rangohamali Bedarganj Road	36	Kumlai Dhupguri Road
10	Rangohamali Shukerpur Road	37	Jaldacca Kumlai Road
11	Road from Berubari to C. F. Road	38	Salbari Jateswar Road
12	Pandapara Village Road	39	Chengmori Red bank Road
13	Road from Madarganj ferry to Bakali	40	Dumdum Phalbarighat Road
14	Berubari Banapara Road	41	Krauti Bataigole Road
15	Silguri Phulbarighat Road	42	Bhotabasti Tandubasti Road
16	Belakoba Rajganj Road	43	Bentguri Barodighi Road
17	Rajnagar Kukunajan Road	44	Grassmore Lukean Road
18	Tehulya Silguri Road	45	Syleehat to District Boundary Road
19	Rajganj Chaulhati Road	46	Pillanshat Bagrakote Road
20	Amaldighi Gadra Road	47	Metteli Neora Road
21	Shukerpur Kantalguri Road	48	Connecting Road between Pillanshat Bagrakote and Pillanshat Lensk Road
22	Mainaguri Ramshahat Road	49	Mal Mangalbari Road
23	Rangohamali Apalchand Road	50	Apal Chand Pathorjhora Road
24	Mainaguri Domoham Road	51	Majgaon Apalchand Road
25	Mainaguri Bhotepatty Road	52	Guruzong Diversion Road
26	Ramshahat Tandubasti Road		
27	Jorepakri Bhotepatty Road		

Alipur Duars Subdivision

1	Alipur Duar Bhalka Road	13	Barabisha Bhalka Road
2	Alipur Duar Haldibari Road	14	Falakata Hantapara Road
3	Mahakalguri Chikliguri	15	Joteswar Binnaguri Road
4	Khatopara Parokata Road	16	Lankapara Hantapara Road
5	Newland Chakchaka Road	17	Mujnai Gopalpur Road
6	Dhowla Newland Road	18	Dolgoan Makrapara Road
7	Toposikata Chulapatha Road	19	Falakata Lachmandebari Road
8	Kumargram Haldibari Road	20	Kalchini Jaygaon Road
9	Samuktala Kartica Road	21	Topshikata Kalchini Road
10	Alipur Duar Civi Station Road	22	Madarihath Nilpara Road
11	Kumargram Civil Station Road	23	Rajabhatkhowa Joygaon Road
12	Bhatibari Ghoramara Road		

Source .—District Board, Jalpaiguri.

TABLE 9.2—ROADS AND BUNGALOWS

I—Metalled Roads; IA—Metalled, bridged and drained throughout; IB—Metalled, partially bridged and drained; II—Unmetalled Roads; IIA—Unmetalled, bridged and drained throughout; IIB—Unmetalled, partially bridged and drained; III—Banked and surfaced with "Muram" or similar material but not drained; IV—Banked but not surfaced, partially bridged and drained; V—Cleared, partially bridged and drained; VI—Cleared only.

Sl. No.	Class of Road	Name of Road	Length			Location of Dak or Inspection Bungalows and Remarks
			Miles	Furlongs	Feet	
			4	5		
NATIONAL HIGHWAYS						
'A'						
		Behar Assam National Highways No 31				
1	I	Portion from Bagrakote to Chalsa	16	2	0	Inspection Bungalow at Chalsa
2	I	Portion from Chalsa to Maynaguri	24	2	353	Inspection Bungalow at Lata-guri and Chalsa
3	I	Portion from Maynaguri to Dhupguri	11	3	634	
4	I	Portion from Dhupguri to Gaikatta	8	5	475	Inspection Bungalow at Gaikatta
5	I	Portion from Gaikatta to Dalgaon	7	2	591	Inspection Bungalow at Gaikatta
6	I	Portion from Dalgaon to Falakata	14	0	0	
7	I	Falakata to Patlakhawa	11	7	330	
'B'						
STATE ROADS						
1		Gaikata Chamurchi Road	14	5	323	Inspection Bungalow at Baner-hat
2		Dalgaon—Lankapara Road	11	1	138	Inspection Bungalow at Lanka-para
3		Banes—Maynaguri Road	4	7	300	
4		Baradighi Nagrakata Road (Tender for Forest Road)	8	2	155	Inspection Bungalow at Nagra-kata
5		Nagrakata Changmari Road	6	2	199	Inspection Bungalow at Nagra-kata
6		Nagrakata—Thaljhora Road	6	6	628	
7		Chalsa—Metalli Road	5	0	0	Inspection Bungalow at Chalsa
8		Ramsahi—Gaikatta Road	11	4	634	
9		Ramsahi—Nagrakata Road	11	7	26	Inspection Bungalow at Nagra-kata
10		Alipur—Kumargram Road (up to Samuktalahat)	12	0	0	
11		Buxa Forest Road	16	0	0	
12		Jainti—Dhauta Road	9	6	66	Inspection Bungalow at Jainti and Hatipata
13		Sinchulla Hill Road	11	1	79	
14		Cantonment Road	5	3	396	
15		Alipur—Patlakhawa Road	11	2	0	

Sl. No.	Class of Road	Name of Road	Length		Location of Dak or Inspection Bungalows
			Miles	Furlongs	
1	2	3	4	5	
1	IA & IIB	Jalpaiguri Saulihat Road	22	0	Inspection Bungalow on the road at Kranti on 13th mile
2	IIB	Siliguri Phulbarighat Road	5	0	
3	IA & IIA	Maynaguri Ramshaihat Road	12	0	Two Inspection Bungalows on this road, one Inspection Bungalow at Ramshaihat on 12th mile and other at Mainaguri on 1st mile
4	IA	Jalpaiguri Berubari Road	3	5	
5	IA	Jalpaiguri Siliguri Road	1	3	
6	IA & IIB	Jalpaiguri Kasiabari Road	10	4	
7	IA	Jalpaiguri Rangdhamali Road	6	7	
8	IIB	Rangdhamali Apal Chand Road	8	0	
9	IA	Maynaguri Domohani Road	3	0	
10	IIB	Domdim Phulbarighat Road	8	2	
11	IA & IIB	Kranti Bataigole Road	10	5	One Inspection Bungalow on 11th mile
12	IA	Belacoba Rajganj Road	6	4	
13	IIA	Central Emigration Road	0	6	

TABLE 9.2—ROADS AND BUNGALOWS—concl'd.

Sl. No.	Class of Road	Name of Road	Length in miles		Location of Dak or Inspection Bungalows
			Miles	Furlongs	
1	2	3	4	5	6
14	IIB	Alipur Bhalka Road	19	0	Rest House at Kamakhyaguri on 14th mile
15	IA	Falakata Hantupara Road	17	0	Two Inspection Bungalows on this Road one at Falakata on 1st mile and other at Madarihata on 14th mile
16	IA & IIB	Alipur Haldibari Road	12		Inspection Bungalow at Kumargram
17	IA & IIB	Mainaguri Helapakri Road upto Bhotepatty	7	0	
18	IA & IIB	Nathowa Banerhas Road	10	2	
19	IIB	Mahakalguri Chikliguri Road	8	4	
20	IIB	Bhotebasti Yandubasti Road	4	0	
21	IA & IIA	Dhupguri Nathowa Road	11	4	Inspection Bungalow at Dhupguri
22	IIA	Khatopara Parokata Road	6	4	
23	IIB	Salbari Lakhipur Road	3	4	
24	IA & IIA	Rangadhamali Sikerpur Road	6	4	
25	IIA	Rajnagar Kukurjan Road	2	2	
26	IA & IIA	Ramshahat Yandubasti Road	8	0	
27	IA & IIB	Newland Chakchaka Road	14	0	
28	IIB	Bontguri Baradighi Road	1	4	
29	IA & IIA	Grassmore Luksew Road	3	4	
30	IA & IIB	Kalchini Joygaon Road	13	0	
31	IA	Sailihat boundary of District Road	4	0	
32	IIB	Kranti Neora Road	3	5	
33	IIA	Jorepakri Bhotepatty Road	2	0	
34	IA	Pillanshat Bagrakote Road	2	4½	
35	IIB	Berubari Madarganj Road	2	4	
36	IA	Metalli Neora Road	3	0	
37	IA	Connecting road between Pillanshat Bagrakote and Pillanshat Sevak Road	0	6	
38	IA & IIB	Topshikata Kalchini Road	14	0	
39	IIB	Joteswar Binraguri Road	12	0	
40	IIB	Lankapara Hantupara Road	5	6	
41	IIA	Muznai Gopalpur Road	1	6	
42	IA & IIA	Dhowla Newland Road	3	0	
43	IA	Topshikata Chilapatha Road	3	3	
44	IIA	Dalgaon Mokrapara Road	2	7	
45	III	Kumlai Dhupguri Road	1	4	
46	III	Jaldhaka Kumlai Road	3	4	
47	III	Bhotepatty Helapakri Road	2	6	
48	III	Kumargram Haldibari Road	2	4	
49	IA	Samuktala Kartika Road	4	2	
50	III	Raganj Chaulhati Road	5	0	
51	III	Amalidighi Gadra Road	6	6	
52	III	Rangdhamali Badaganj Road	3	0	
53	III	Shikerpur Kantalguri Road	7	0	
54	IA	Mal Mangalbari Road	0	½	
55	IA	Apalchand Pathorphora Road	19	0	
56	IA & IIB	Majgaon Apalchand Road	5	0	
57	IIB	Salbari Joteswar Road	6	0	
58	IIB	Falakata Lachmandabri Road	5	0	
59	IA	Alipur Civil Station Road	1	6½	Inspection Bungalow at Alipur Duar
60	IA	Kumargram Civil Station Road	1	4	
61	IIB	Bhotibari Ghoramara Road	3	0	
62	IIB	Barabisha Bholka Road	3	0	
63	IIA	Mainaguri Chengrabandha Road	11	0	
64	IA	Gurzon Diversion Road	0	3	
65	IIB	Chengmari Red bank Road	3	6	
66	IA & II	Madarihata Nilpara Road	6	2	
67	IIB	Road from Madarganj ferry Banali Road	2	1	
68	IA	Tetulia Siliguri Road	1	2	
69	IA	Jalpaiguri Chaulpati Road	13	0	
70	IIB	Jalpaiguri Chengrabandha Road	12	4½	
71	IB	Rajabhatkhawa Joigaon Road	20	0	Inspection Bungalow at Kalchini on the 8th mile
72	III	Pandapara Village Road	1	3	
73	III	Berubari Bonapara Road	6	5½	
74	III	Road from Huchludanga to Mainaguri Chengrabandha Road via Saptibari	5	4	
75	III	Road from Benabari to C. I. Road	5	0	

Source :—District Board, Jalpaiguri.

**TABLE 9.3—LENGTH OF ROAD COMMUNICATIONS MAINTAINED BY
PUBLIC AUTHORITIES AS AT 31ST DECEMBER 1948**

Length of metalled roads maintained by the Works and Buildings Department (in miles)	Length of unmetalled roads main- tained by the Works and Buildings Department (in miles)	Length of metalled roads maintained by the district board (in miles)	Length of unmetalled roads main- tained by the district board (in miles)	Length of metalled roads maintained by the muni- cipalities (in miles)	Length of unmetalled roads main- tained by the municipalities (in miles)	Total length of metalled roads (in miles)	Total length of unmetalled roads (in miles)	Grand Total
224.9	35.6	219.3	301.7	9.5	5.7	453.7	343.0	796.7

Note—Figures of Union Boards are not shown in this statement.

Source :—Works and Buildings Directorate.

TABLE 9.4—RAILWAY STATIONS

Name of Railway Line and Station	Distance of each Railway Station by rail		Name of Railway Line and Station	Distance of each Railway Station by rail	
	Miles	From		Miles	From
		3			3
North Eastern Railway, Maniharighat—Pandu Line			North Eastern Railway, Rajabhatkhawa Junction—Jainti Line		
Damdin	244	Maniharighat	Buxa Road		Rajabhatkhawa Junction
Oodalbari	241	Do.	Jainti		Do.
Bagrakote	239	Do.	North Eastern Railway, Mal Junction—Metiah Line		
Nagrakata	262	Do.	Chalse Junction	5	Mal Junction
Carron	265	Do.	Metiah	11	Do.
Chengmari	267	Do.	North Eastern Railway, Mal Junction—Domohani—Patgram Line		
Banarhat	273	Do.	Patgram . . . . .	..	Mal Junction
Binnaguri	277	Do.	Chengrabandha	37	Do.
Dalgaon	282	Do.	Bhotepatti	31	Do.
Mujnai	286	Do.	Mamaguri Road	25	Do.
Madarihat	292	Do.	Domohani	21	Do.
Rajabhat	313	Do.	Lataguri Junction	13	Do.
Garopara	309	Do.	Neora Neddi	9	Do.
Kalchini	306	Do.	Baradighi	5	Do.
Hamiltonganj	304	Do.	Mal Junction . . . . .	..	Do.
Hasimara	298	Do.	North Eastern Railway, Domohani—Ramsai Line		
North Eastern Railway, Siliguri Junction—Haldibari Line			Lataguri		Lataguri Junc.
Mandalghat	31	Siliguri Junction	Ramsai		Do.
Jalpaiguri	25	Do.	North Eastern Railway, Barnesh Ghat—Domohani Line		
Belakoba	15	Do.	Barnesh Ghat		Domohani
North Eastern Railway, Rajabhatkhawa—Gitaldaha Junction Line					
Alipur Duars	34	Gitaldaha Junc.			
Alipur Duars Court	6	Do.			
Alipur Duars Junction	34	Do.			
Damanpur	39	Do.			
Rajabhatkhawa Junction	44	Do.			

TABLE 9.5—LIST OF POST OFFICES

Sl. No.	Branch Offices	Sub-Offices	Sl. No.	Branch Offices	Sub-Offices
1	2	3	1	2	3
SADAR SUBDIVISION			ALIPUR DUARS SUBDIVISION		
P. S. JALPAIGURI			P. S. MADARIHAT		
1	..	Jalpaiguri	35	Madarihat	..
2	Belacoba	..			
3	Berubari	..			
4	Goralbari	..			
5	Khariva	..			
6	Mandalghat	..			
7	..	Dimbazar	36	..	Falakata
8	..	Hindusthan Insurance (Jalpaiguri)			
9	..	Jalpaiguri Bank			
10	..	Jalpaiguri Court			
11	..	Jalpaiguri District School Board	..	..	..
P. S. RAJGANJ			P. S. ALIPUR DUARS		
12	..	Binnaguri	37	..	Birpara
13	Kamarbhita	..			
14	Sikarpur	..			
P. S. MAINAGURI			P. S. KUMARGRAM		
15	..	Mainaguri	38	..	Haldibari
16	..	Domohani			
17	Barnes Junction	..			
18	Bhangamali	..			
19	Bhotepatti	..			
20	Chengmari	..			
21	Sisubarihat	..			
22	Madhabdanga	..			
P. S. NAGRAKATA					
23	..	Nagrakata			
P. S. DHUPGURI					
24	..	Dhupguri			
25	Prodhanpara	..			
P. S. MAL					
26	..	Mal			
27	..	Dam Dim			
28	Krantihat	..			
29	Manabari	..			
30	Rajdanga	..			
31	Neora	..			
P. S. MATIALI					
32	..	Motalli			
33	Baradighi	..			
34	Chalsa	..			

Source :—Indian Posts and Telegraphs Department.
[List incomplete, no complete list being readily available with the Department.]

TABLE 9.6—POLYMETRICAL TABLE OF DISTANCES
(Compiled by the District Officer)

Note—Distances are shown in miles as follows :—

By Railway	..	..	..	2½
By Road	..	..	..	10

NAME OF POLICE STATIONS

	Falakata	Jalpaiguri	Maynaguri	Rajganj	Distance and name of the nearest Railway Station
1		2	3	4	5
Alipur	21	148, 1	114, 4	158, 6	Alipur Duars, North Eastern Railway, 1/3 mile
Falakata		71, 17	27	81, 23	Madarihat, North Eastern Railway, 14 miles
		Jalpaiguri	7	10, 6	Jalpaiguri North Eastern Railway, 1/2 mile. Barneshghat, North Eastern Railway, 3 miles
		Maynaguri	10, 13		Domohani, North Eastern Railway, 4 miles
			Rajganj		Belakoba, North Eastern Railway, 5½ miles

N. B.—Alipur Duars to Kumargram—29 miles by road.
Source.—Bengal District Gazetteer (B. Volume), Jalpaiguri.

ANCIENT MONUMENTS AND FAIRS

TABLE 10.1—GLOSSARY OF THE BETTER KNOWN ANCIENT MONUMENTS IN JALPAIGURI

There are few ancient monuments in Jalpaiguri district dating before 1800. The most interesting archaeological remains used to be the fort of Bhitargarh now in East Pakistan. A description of Bhitargarh will be found in Dr. Francis Buchanan Hamilton's account published elsewhere in this volume. There are three important ruins: Jalpesh (J.L. 43 Gartali Jalpes, P.S. Maynaguri), 4 miles south-east of Maynaguri; the temple of Huchlurdanga (J.L. 64 Hasludanga, P.S. Maynaguri) about 8 miles east of Maynaguri, and the ruins of Mendabari fort (J.L. 44, Barajhar, P.S. Alipur Duars). The following note on Jalpesh by the Director General of Archaeology and on Mendabari by the Subdivisional Officer of Alipur Duar, Sri J. C. Sengupta, I.A.S., are reproduced by kind permission. The Huchlurdanga temple is a ruin of massive stones and was evidently a temple.

I Maynaguri :

1 mile from Maynaguri behind the Government hospital and on the other bank of the Jarda river

- (1) a stone image,
- (2) a broken Siva temple in a place called Sodar Khai, resembling the Jalpeswar temple,
- (3) a stone cistern, a filled up well, and a half dug in pillar in a place called Kathua,
- (4) a little distance from Maynaguri, remains of an old house called Nalrajar Deul. This is in a forest.

II A stone image in Domohoni.

III Debigarh in Shikarpur:

Remains of an ancient temple said to have been built by Debi Chaudhurani.

IV A debi image found near Bhelakopa.

V One mile from Pandapara there is a dried up tank, resembling the tank at Adarpara. It has stairs of brick and was probably edged all round with brick. There are two structures like two temples. A little way off is the bed of the Gadadhar river. There is a dried up tank in Biswas Para.

VI There are two *dighis* near the Raj Kutchery close to the bridge across Panga river. Traces of brick heaps are to be seen in these tanks.

VII Nearby, in a place called Garal Bari, an image, a bell, and a brass box have been found from a dry tank. A few miles further away is Bhitagarh.

Inspection Note on the Jalpesh temple at Jalpesh, District Jalpaiguri.

The temple of Jalpesh, which is originally said to have been constructed by the king of Bhutan in the 12th century A.D., was more or less completely repaired later by Maharaja Prana Narayana in or about the year 1665 A.D. It is mostly this later construction that has survived internally in the major part of the temple. Maharaja Prana Narayana's temple would appear to have been 72' 8" square. The construction was that at the ground floor there

were two series of *dalans*, one behind the other, and at the centre the *garbhagriha*, which was a square of 29 ft. The walls of the *garbhagriha* are 6' 2" thick, but the thickness of the wall between the outer and the inner *dalans* as seen from the second storey is 3' 6" only. On the second storey the outer series of *dalans* form the terrace in front of the inner series. The inner series of *dalans* on the second storey consist of an oblong central apartment (32' by 16') with a strong vaulted roof and a 16 ft. square room at each corner covered by a dome, which is carried by filling up the corners and converting the room into a circle. The facade of the second storey from outside shows five arches 7' 4" wide and 10' high, three of these piercing the oblong compartment in the centre of each side and one the corner room. These arches both inside and out are either multifoil or pointed and typical of the latter part of the 17th century. So are also the numerous chases and niches in the walls of the various *dalans* and the sanctum.

Coming to the inner square of the sanctum it is now seen to rise vertically to the height of two storeys, above which the restoration is entirely new. Originally, however, the square portion of the cella rose vertically to the full height of the first storey and to about half the height of the second storey, as down to that level the corner pendentives would have come and reduced the inner compartment from a square to an octagon on which the circle carrying the drum would have rested and which in turn carried the upper dome on the top of which rested the lotus necking whereon stood the metal pinnacle. The present height from the ground floor of the cella to the pinnacle is said to be 127 feet. The cella, however, is some 10 feet lower than the ground floor outside which corresponds roughly to the floor level of the outer series of the *dalans* round the sanctum.

The old photograph of the temple in the possession of Shri G. Sarbadhakshya, Pleader, Jalpaiguri, who is now the most effective member of the Temple Committee, shows that above the two storeys of *dalans* round the sanctum stood vertically an octagonal figure, and it was above the height of this two storeyed octagon that the outline of the structure receded back to provide a small terrace round the octagonal figure, and this space was naturally emphasised at the corners above the second storey of the *dalans*. At this level, that is to say, at the top of the octagonal figure round the sanctum rose a tall drum, which was ultimately covered by a semicircular dome on which traces of the lotus necking can be made out. The original pinnacle would have risen from the centre of the lotus necking.

The shrine of Jalpesh is consecrated to Mahadeva in which there is a *swayambhu lingam*, the top of which is now visible about 2 feet below the marble *gauripatta* now built into the centre of the sanctum.

Camp, Jalpesh,
The 4th March, 1952.

M. S. VATS,
Director General of Archaeology in India.

Mendabari Ruins

I went round the boundary wall once and found several openings for gates on the northern, southern and the western side of the boundary wall. It is rather curious to note that there was no gate in the eastern side of the enclosure. The walls which are built of bricks measuring 18" by 12" by 2" approximately with very little mortar, must have been more than 20 ft. high, as at some places, the height of the broken wall is about 15 ft.

The main gate must have been very massive, as the thickness of a certain length of the wall on either side of the openings were more than ten feet, as compared to the thickness of 4½ feet at all other places.

I also noticed two openings in the boundary wall, one on the western and the other on the southern side. These openings are rather low, about 4½ feet in length, and almost of equal width and supported by pointed arches. I also noticed marks of other such openings. From a survey of the neighbourhood of the openings, it appears that those were built for the passage of water, the openings serving as the inlets for canals.

I went round the course of one canal, which is probably the biggest in the enclosure. The canal enters the enclosure by an opening at the northern side of the wall and leaves by another opening at the eastern side of the wall.

The constructional details of this canal shows the high degree of engineering skill which the builders of that period had attained. The canal is about 8 to 10 feet deep and about 20 to 30 feet wide. The sides of the canal, from the bottom to the surface is built up of brick and mortar which have marvellously withstood the ravages of time.

At different points, flights of steps, leading to the water, had been constructed.

An idea of the age of the Mendabari ruins can be had from the fact that at the eastern end of this canal, a ' gigantic ' Chap tree stands on the boundary wall, the trunk of the tree measuring 19 feet round the circumference.

The Bania river passes along the eastern side of the ruins, a rough map* of which is given below.

The Mendabari ruins are surrounded by moats on all sides. From my observations, I am of the opinion that the structure now known as the Mendabari ruins, must have been a castle of a King or a fort or, which is equally likely, a walled city.

In conclusion, I would request you to move the proper authorities to sanction the excavation of the area under the direction of archæologists, as in my opinion, interesting lights may be thrown on Ancient Indian History as a result of the excavation, since this area might have been included in the ancient Kingdom of Kamrup. In this connection, I would like to point out that a comparison of the architectural peculiarities of the Mendabari ruins with those of the one at Bhitargarh in Sadar subdivision may help in fixing the age of the Mendabari ruins.

*Not reproduced—A.M.

TABLE 10.2A—LIST OF IMPORTANT FAIRS AND MEALS

Sl No.	J.L. No.	Name of place where mela or fair is held	Time (English month) when mela is held	Local religious or other occasion of the mela	Duration of mela or fair (number of days)	Average total attendance number
1	2	3	4	5	6	7
SUBDIVISION : SADAR.						
<i>THANA : JALPAIGURI</i>						
1		Dinbazar River ghat	September	Immerision ceremony (Durga puja)	1 day	5,000
2		Rajbari	August	Manasha puja	1 day	3,000
3		Sonarhat	September	Immerision ceremony (Durga puja)	1 day	2,000
4		Gourihat	September	Charak puja	1 day	2,000
5		Paharpur Goshala	October	Gopastami	1 day	3,000
<i>THANA : MAINAGURI</i>						
6		Jalpesh	Feb & March	Sivaratri	1 month	More than 1 lakh
7	202	Bhandani	No fixed time could be given as the mela is held after Bejoya Dasami	In connection with Bhandani puja	1 day	5,000
SUBDIVISION : ALIPUR DUARS						
<i>THANA : ALIPUR DUARS</i>						
8	99	Alipur Duar Hatkhola	September	Durga puja	4 days	4,000
<i>THANA : KALCHINI</i>						
9		Hamiltonganj	September or October	Kali puja	3 days	2,000
<i>THANA : MADARIHAT</i>						
10	18	Madarihat	September	Durga puja	1 day	500
11	31	Hantupara	September	Durga puja	4 days	1,000
12	45	Birpara	September	Durga puja	1 day	300
13	38	Sishubari	October	Kali puja	1 day	200
14	10	Lankapara	September	Durga puja	4 days	200
15	30	Mujnai	September	Durga puja	1 day	200
16	32	Dumchipara	October	Kali puja	3 days	1,000
17	33	Ramjhora	October	Kali puja	3 days	800
<i>THANA : FALAKATA</i>						
18	98	Chuakhola	September	Durga puja	5 to 7 days	500
19	80	Jharhbeltali	March	Dolejatra	7 days	700
20	82	Beltali Bhandani	March	Dolejatra	7 days	500
21	102	Chhota Salkumar	March	Dolejatra	5/6 days	500
22	72	Hedaitnagar	March	Dolejatra	5/6 days	600
23	61	Malsagaon	March and April	Barunisnan	7 days	700

*Source :—*By courtesy of the chairman, District Board, Jalpaiguri and the Superintendent Police, Jalpaiguri

TABLE 10.2B—LIST OF HATS (MARKETS)

Sl No. 1	Name of the Market or Hat 2	Location 3	Main items of business 4	Days of operation 5
SUBDIVISION : SADAR				
1	Jalpaiguri Dinbazar	P. S. Jalpaiguri	Fish, vegetable, dal, gur	Daily (cont.nuous)
2	Berubari	do	Paddy, tobacco, cattle	Wednesday, Saturday
3	Rangdhamali	do	Paddy, jute, tobacco, vegetable	do
4	Dongujhara Hat	do	Paddy, jute, vegetable	Friday
5	Gauri Hat	do	do	Tuesday, Friday
6	Natun Hat	do	Paddy, rice, vegetable, jute, fish	Monday, Thursday
7	Sabhar Hat	do	Rice, paddy, vegetable, jute	Monday
8	Paharpur Hat	do	do	Monday Thursday
9	Khayorburi Hat	do	Tobacco, paddy, jute, vegetable	Sunday, Wednesday
10	Manikganj Hat	do	Rice, paddy, jute, tobacco	Monday, Thursday
11	Sanyasikata	P. S. Rajganj	Paddy, jute, flattened rice, gur, goat	Wednesday, Saturday
12	Rajganj Hat	do	Paddy, rice, flattened rice, gur, potato, brinjal, jute, cow, goat, fowl	Sunday, Thursday
13	Chaulhati	do	Paddy, rice, gur, potato, cow, goat, fowl	do
14	Kharkharia Hat	do	Paddy, rice, jute	Monday, Friday
15	Fulbari Hat	do	Paddy, rice, gur, jute	Thursday, Saturday
16	Saraswatipur Hat	do	Paddy, rice	Sunday
17	Bolacoba Hat	do	Rice, vegetable	Tuesday, Friday
18	Ramsai Hat	P. S. Mainaguri	Paddy, rice, vegetable	Friday
19	Anguri Hat	do	do	Wednesday, Saturday
20	Rahimganj Hat	do	Jute, paddy, rice, cattle	Sunday, Wednesday
21	Barnish Hat	do	Paddy, rice, vegetable	Monday, Thursday
22	Barnes Bazar	do	Gur, pulses, mustard oil	Daily
23	Jalpesh Hat	do	Rice, paddy, pulses, vegetable	Sunday, Wednesday
24	Mainaguri Hat	do	Rice, paddy, pulses, gur, milk	Tuesday, Friday
25	Rather Hat	do	Rice, vegetable, paddy cinamom	Sunday, Thursday
26	Mallick Hat	P. S. Mainaguri	Rice, pulses, vegetable	Tuesday, Friday
27	Rakhal Hat	do	do	Monday, Thursday
28	Gauranger Hat	do	do	Sunday, Wednesday
29	Sastir Hat	do	do	Tuesday, Saturday
30	Domohani Hat	do	do	Sunday, Wednesday
31	Helapakri Hat	do	Rice, paddy, jute, pulses, vegetable	Tuesday, Saturday
32	Bhatpatti Hat	do	Rice, vegetable	Wednesday, Sunday
33	Jorepaki Hat	do	Paddy, rice, jute, pulses	Tuesday, Saturday
34	Rajar Hat (Jiranganj Hat)	do	Paddy, rice, jute, pulses, tobacco	Monday, Thursday
35	Krishnaganj Hat (Bakali Hat)	do	Paddy, rice, jute, pulses	Tuesday, Saturday
36	Luksam Hat	P. S. Nagrakata	Rice, pa ldy, vegetables	Sunday
37	Sulkapara	do	do	Wednesday,
38	Nathoa Hat	P. S. Dhupguri	Rice, paddy, jute, mustard seed	Monday, Friday
39	Mogalkata	do	Rice, paddy, vegetables	Wednesday
40	Tatapara Hat	do	do	Sunday
41	Champaguri	do	do	do
42	Chamurchi Hat	do	Orange, rice, tobacco, paddy, potato	Wednesday
43	Banerhat	do	Rice, paddy	Sunday
44	Gairkata	do	Rice, paddy, mustard, tobacco, orange	do
45	Duramari	do	Rice, paddy, mustard	Wednesday, Saturday
46	Dawkimari	do	Rice, paddy, tobacco	Sunday, Wednesday
47	Dhupguri	do	Rice, paddy, jute, dryfish, mustard, pulses, cattle	Tuesday, Sunday,
48	Chawhaddi	do	Rice, vegetable	Saturday, Tuesday
49	Kattimari	do	do	Friday, Monday
50	Bhadani	do	Rice, paddy, vegetable, fish, tobacco	Thursday, Sunday
51	Salbari	do	Rice, paddy, vegetable	Monday, Thursday
52	Bataigol	P. S. Mal	Paddy, rice, vegetable, tobacco, fruits	Sunday
53	Kranti	do	Paddy, rice, vegetable	Tuesday, Friday
54	Lataguri	do	do	Wednesday, Saturday
55	Baradighi	do	do	Sunday
56	Oodlabari	do	do	do
57	Damdum	do	do	do
58	Maulani	do	do	Friday, Tuesday
59	Mangalbari	P. S. Matiali	Paddy, rice, vegetable, fruits	Thursday
60	Metely Hat	do	Paddy, rice, vegetable, tobacco, fruits	Sunday

TABLE 10.2B—LIST OF HATS (MARKETS)—concl'd.

Sl No. 1	Name of the Market or Hat 2	Location 3	Main items of business 4	Days of operation 5
SUBDIVISION : ALIPUR DUARS				
61	Madarihat Hat	P. S. Madarihat	Rice, paddy, orange	Sunday
62	Sisubari Hat	do	do	Thursday
63	Birpara Hat	do	Rice, vegetable	Sunday
64	Jateswar	P. S. Falakata	Paddy, rice, pulses, jute, guni, tobacco	Tuesday, Saturday
65	Falakata	do	do	Tuesday, Friday
66	Hamiltonganj Hat	P. S. Kalchini	Paddy, rice	Sunday
67	Hashimara Hat	do	do	do
68	Sitalibasti Hat	do	do	Thursday
69	Garopara Hat	do	do	Sunday
70	Jaigaon Hat	do	Rice	do
71	Nimti Hat	do	Paddy, rice	Wednesday
72	Dalsingpara Hat	do	Rice	Sunday
73	Jainti Hat	do	do	Monday
74	Rajabhatk Iowa	do	do	Friday
75	New Town Hat	P. S. Alipur Duars	Rice, vegetable	Tuesday
76	Alipurduar Hat	do	Rice, paddy, jute, mustard	Thursday, Sunday
77	Salsalabari Hat	do	Rice, paddy, jute	Tuesday, Sunday
78	Dhalkar Hat	do	Rice, paddy, vegetable	Monday
79	Bhatibari Hat	do	Paddy	Sunday
80	Samuktola Hat	do	Paddy, rice, kalai, mustard, vegetable, cattle	Friday, Monday
81	Salkumar Hat	do	Paddy, rice, vegetable	Monday, Thursday
82	Silbari Hat	do	Paddy, rice, jute, mustard, pulses, tobacco, vegetable	Wednesday, Saturday
83	Mathura Hat	do	Paddy, jute, kalai, vegetable	Monday
84	Patkapara	do	Paddy, pulses, vegetable, meat	Saturday
85	Ghargaria	do	do	Sunday, Thursday
86	Damonpur	do	do	Wednesday
87	Barabasia Hat	P. S. Kumargram	Rice, jute, paddy, mustard, potato, pulses	Monday
88	Kulkuli Hat	do	Paddy, rice, potato, mustard, pulses	Sunday
89	Kamakhyaaguri	do	Rice, paddy, pulses, jute, mustard	

SUPPLEMENTARY LIST OF HATS (MARKETS)

SUBDIVISION : SADAR

1	Talma Hat	P.S. Jalpaiguri	Paddy, rice, vegetable	Monday, Friday
2	Kadabari	do	do	Sunday, Tuesday
3	Dhupganj	do	do	Tuesday, Friday
4	Banijwer	do	do	Monday, Friday
5	Jaharur Hat	do	do	Wednesday, Saturday
6	Jalpaiguri Jute Market	do	Jute	Daily
7	Jalpaiguri Municipal Market	do	Vegetable, Meat, Milk	Daily
8	Sarogara	P.S. Rajganj	Paddy, rice, vegetable	Monday, Thursday
9	Simuklangi	do	do	Tuesday, Friday
10	Paglar Hat	do	do Jute	Monday, Friday
11	Sakhani Hat	do	Paddy, rice, vegetables	Tuesday, Friday
12	Thaljhora	P.S. Nagrakata	do	Wednesday
13	Bagribari	P.S. Dhupguri	do	Tuesday, Friday
14	Moynatali	do	do	Wednesday, Sunday

SUBDIVISION : ALIPUR DUARS

15	Ramjhora	P.S. Madarihat	Vegetable, fish, meat	Sunday
16	Mujnai	do	Paddy, rice, vegetables	Monday
17	Kumargram Duar Bazar	P.S. Kumargram	Rice, F. rice, orange, mango	Wednesday, Saturday
18	Daldali	do	Paddy, rice vegetables	Friday
19	Majhirdabi	do	do	Thursday

Source :—By courtesy of the Joint Director of Agriculture (Marketing), West Bengal.

VILLAGE DIRECTORY

This directory renders an account of each Village and each Ward of a Town entered on the Jurisdiction Lists for each thana maintained by the Director of Land Records and Surveys, West Bengal. It gives the J. L. number, name, and area of the village, and, where inhabited, its number of occupied houses, population, number of literates, with the livelihood of the population classified into eight major livelihood classes of which four are agricultural and four non-agricultural. The four agricultural livelihood classes are:—I—Cultivators of land wholly or mainly owned and their dependants, II—Cultivators of land wholly or mainly unowned and their dependants, III—Cultivating labourers and their dependants and IV—Non-cultivating owners of land; Agricultural rent receivers and their dependants. The four non-agricultural livelihood classes are persons, including their dependants, who derive their principal means of livelihood from V—Production other than cultivation, VI—Commerce, VII—Transport and VIII—Other services and miscellaneous sources.

The villages or towns of a thana are grouped under its name and the total of each column has been struck for each thana with an account of its rural and urban population. Thanas have been arranged according to the census code serial.

Symbols will frequently be seen against the name of a village or town, and they indicate that the institution which the symbol denotes is physically situated within the village. The symbols are :—

P	denotes	Primary School
S	„	High English School
H	„	Hospitals, A.G. or F.R.E. Hospitals
D	„	Dispensaries
Rh	„	Rural Health Centres
P.O.	„	Post Offices
M.A.	„	Municipal Area

Where figures like 5P or 2S or 2H, etc. occur they denote that the mauza or town has five Primary Schools or 2 High Schools or 2 Hospitals etc.

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/ Ward in acres	No. of occupied houses	Popu- lation	No. of literates	II	III	IV		VI	VII	VIII	
								10	11	12	13	14	
1 P. S. Jalpaiguri													
1	(i) Barpatia Nutanbas 5P	11,449.30	657	3,488	293	1,413	1,658	19	..	208	121	..	69
	(ii) Bhandarpur T. E.		172	551	42	..	..	..	..	551	..	..	..
	(iii) Bhandigurite		219	990	119	..	..	..	..	956	15	..	19
	(iv) Jaipur T. E.		230	1,003	92	..	..	..	..	974	..	..	29
2	Bhelakoba 3P, PO	6,178.56	716	3,540	522	1,737	1,306	182	46	31	96	27	115
3	(i) Patkata 2P	17,772.73	1,254	6,192	481	2,676	2,973	247	3	51	74	7	161
	(ii) Raypur T. E.		244	1,093	81	..	..	12	..	1,053	1	..	27
	(iii) Karatavally T. E.		220	792	20	..	105	..	..	672	..	1	14
	(iv) Rangamaty T. E.		514	1,878	111	..	12	10	..	1,794	11	1	50
4	Paharpur 3P	5,972.61	648	3,985	474	1,513	2,061	97	..	214	49	3	48
5	Kharia 8P, PO	14,886.60	1,852	9,879	1,813	1,776	4,099	433	184	726	964	42	1,655
6	Bahadur 2P	8,336.18	141	4,094	296	1,370	2,412	256	31	..	..	..	25
7	Satkhamar	4,545.23	683	3,139	300	1,688	534	51	19	16	2	4	825
8	Garalbari 2P, PO	11,171.65	1,297	6,321	777	3,911	2,171	58	16	43	5	..	117
9	Amarkhana P	151.04	20	102	18	85	17	..	..	..	..	..	..
10	Dharmmadeb	210.78	14	63	12	34	25	..	..	4	..	..	..
11	Araji Amarkhana	256.65	28	145	15	90	47	6	..	..	..	..	2
12	Ranmadeb	303.33	17	104	8	46	50	1	4	..	3	..	..
13	Maria Kamalapukhari	260.54	35	176	16	101	75	..	..	..	..	..	..
14	Chhitland of Singumari P	23.43	27	130	24	86	42	2	..	..	..	..	..
15	Araji Maria Kamala Pukhari P	1,375.73	175	600	23	292	247	10	5	11	..	..	35
16	Mandalghat 3P, PO	5,516.92	1,042	5,061	835	1,926	2,394	358	2	110	64	3	204
17	Banskanthia D	618.93	188	923	196	174	319	40	..	126	54	102	108
18	Araji Garalbari	4,70.24	133	646	152	171	232	4	6	67	13	65	88
19	Nandanpur 2P	2,528.99	377	1,853	244	577	1,093	52	27	31	12	7	54
20	Kachua P	3,156.08	57	260	41	105	151	..	..	4	..	..	..
21	Boalmari 2P	4,211.57	232	1,200	274	447	657	3	..	9	7	3	74
22	Kharija Bernbari 4P	3,417.69	553	2,585	322	1,245	1,111	4	..	36	16	33	140
23	Berubari 4P, PO	15,874.21	2,810	13,209	1,809	5,899	5,799	669	39	211	92	10	490
24	Berubari Nagar P	82.91	49	198	15	43	39	..	..	25	66	..	25
Jalpaiguri Municipality— 5S, 31P, 4H, MA, PO.													
	Ward No. I		522	4,944	1,404	186	138	..	83	746	1,280	428	2,083
	Ward No. II		612	3,130	620	166	358	2	41	275	566	344	1,378
	Ward No. III		2,194	13,311	7,466	176	5	85	137	1,566	2,875	898	7,569
	Ward No. IV		1,195	5,985	1,802	84	..	1	16	536	2,625	253	2,470
	Ward No. V		2,162	13,889	8,079	70	151	6	116	2,174	4,947	521	5,904
	Total	3.00 sq. miles	6,685	41,259	19,371	682	652	94	393	5,297	12,293	2,444	19,404
	Rural		15,304	74,206	9,425	27,405	29,629	2,514	382	7,923	1,665	308	4,374
	Urban		6,685	41,259	19,371	682	652	94	393	5,297	12,293	2,444	19,404
	G. Total	185.6 sq. miles	21,989	115,465	28,796	28,087	30,281	2,608	775	13,220	13,958	2,752	23,778

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	II	III	IV	VI	VII	VIII		
		3	4					10	11	12	13	14	
2 P.S. Rajgunj													
1	(i) Jangalmohal	6,2531.68	201	1,138	68	454	592	6	..	10	..	76	
	(ii) Saraswatipur T.E.		189	858	126	793	10	7	48
2	Dabgram 3P	11,333.43	1,148	7,027	2,660	2,830	1,611	195	19	324	212	1,719	
3	Binnaguri P	14,560.88	1,153	6,043	435	3,866	1,877	136	10	46	20	82	
4	Simulguri	713.27	60	312	10	115	192	4	..	..	..	1
5	Lalitabari P	675.92	54	283	1	167	100	..	..	4	..	12
6	Mantadari P	2,921.99	227	1,200	66	764	402	10	21	1	..	2	
7	(i) Sikarpur P	8,353.50	775	4,694	431	2,032	1,530	203	3	134	411	250	
	(ii) Sikarpur T.E.		480	1,636	198	..	..	..	1,559	5	3	69
8	Guzrimari P	1,959.56	185	915	112	398	476	2	..	21	6	12	
9	Chhat Guzmanari S	2,951.97	251	1,290	256	544	357	6	25	47	149	162	
10	Araji Bhelakoba I	202.55	10	100	4	99	..	..	..	1	..	..
11	Araji Bhelakoba II P	409.48	75	379	5	314	54	..	..	2	..	3
12	Araji Bhelakoba III	121.51	30	61	1	44	11	..	..	..	..	6
13	Chhat Sikarpur D	292.20	31	133	..	114	19	..	..	..	..	..
14	Araji Binnaguri	1,673.45	144	840	91	558	201	27	..	48	..	6	
15	Panikauri	3,144.02	288	1,461	87	951	443	35	6	12	1	9	
16	Ambari Falakata P	834.87	74	400	49	219	110	14	6	..	..	51
17	Kamarbhita P.O	896.13	126	647	44	371	160	7	..	24	32	41	
18	Gadhaganj	1,338.62	107	627	102	565	47	..	..	..	1	14
19	Jugibhita	1,121.06	93	491	27	315	153	8	..	2	..	13	
20	Badlagachhi	674.13	57	193	24	139	35	1	1	..	..	17
21	Patharghata	781.02	50	337	31	209	95	..	18	2	4	9	
22	Mehendigachh	1,188.76	92	505	52	279	200	10	..	1	..	15	
23	Balaigachh P	734.30	46	313	35	145	94	15	..	4	..	55	
24	Mahanbhita	1,136.89	87	456	39	429	..	20	..	..	3	4
25	Chakrabhatta	948.69	109	634	93	343	218	5	..	6	..	38	
26	Sannyasikata P	1,4013.60	1,101	5,692	431	4,067	1,257	167	78	17	17	89	
27	Kismat Sukani P	2,099.54	314	1,573	342	1,086	293	8	..	38	34	110	
28	Sukani 6P	13,789.89	1,800	8,246	448	4,498	1,910	875	32	107	461	359	
29	Kukurjan P	5,910.79	637	3,239	537	2,031	655	351	5	65	37	94	
Total (Entirely Rural)		245.8	9,994	51,723	6,805	27,946	13,092	2,105	224	3,268	1,403	319	3,366
		sq. miles											

3 P. S. Mainaguri

1	Chatrarpar P	745.21	142	715	140	277	428	..	..	..	..	10
2	Baulbari P	1,619.44	212	1,056	394	358	671	..	..	4	..	13
3	Kumarpara 2P	1,566.92	262	1,185	249	588	597	..	..	..	..	..
4	Paschim Baragila P	1,099.60	136	713	164	365	332	..	..	2	..	14
5	Dakshin Baragila	1,196.48	156	759	36	44	436	..	243	7	..	29
6	Banglajhar P	1,226.95	140	766	186	495	266	..	..	..	..	5
7	Patkakhocha	1,056.24	141	720	74	350	316	10	..	19	..	25
8	Singimari P, Rh	1,140.26	217	1,018	354	331	665	..	3	7	3	9
9	Bagjan P	568.28	86	461	70	133	249	..	..	23	7	49
10	Bengkandi P	1,895.95	319	1,512	305	379	819	5	1	107	76	96
11	Uttar Mauamari	1,339.33	173	820	138	268	522	10	..	..	9	11
12	Kathalbari P	1,219.19	283	1,582	333	157	542	124	45	96	177	173
13	Domohani S, 2P	675.03	773	3,646	1,529	7	74	..	18	179	754	596
14	Uttar Marchbari P	1,352.15	278	1,375	150	402	601	155	..	30	119	60
15	Uttar Sisubari	376.85	12	55	6	21	34	..	..	..	..	..
16	Dakshin Marchbari	370.91	6	24	..	4	20	..	..	..	..	..
17	Ulladabri P	1,337.20	239	1,297	379	397	679	16	..	20	22	49
18	Dakshin Mauamari	871.41	366	2,321	737	474	654	757	..	25	96	290
19	Mainaguri S, 2P, D, PO	291.72	423	2,314	1,134	103	85	23	25	325	657	974
20	Madhya Khagrabari	683.09	123	692	84	236	344	2	..	14	33	60
21	Uttar Khagrabari P	1,502.31	204	1,016	101	727	267	4	5	..	1	12
22	Dwarikamari P	1,420.99	183	928	93	465	431	16	..	2	3	11
23	Tekatali P	1,004.33	139	697	85	266	363	3	..	8	23	34
24	Basildanga	1,156.60	96	455	89	222	192	4	..	1	..	36
25	Nirendrapur	907.54	127	613	131	212	382	..	..	17	..	2
26	Dakshin Khagrabari	12,25.60	169	821	513	314	150	315	..	24	3	15
27	Uttar Madhabdanga	1,365.45	206	1,199	203	413	709	12	..	7	21	36

No.	Name of Village or Town/Ward	Area of Village or Town/ Ward in acres	No. of occupied houses	Popu- lation	No. of literates	II	III	IV	VI	VII	VIII		
				6				10	11	12	13	14	
3 P. S. Mainaguri—concl'd.													
28	Dakshin Madhabdanga	1,227.25	148	735	114	305	421	..	..	..	..	9
29	Madhabdanga D, P, PO	869.45	90	354	36	115	228	..	..	1	..	10
30	Uttar Dangapara P	861.42	130	628	58	393	201	..	..	8	..	12
31	Dakshin Ulladabri P	1,355.69	168	874	120	377	389	25	..	26	20	26	
32	Gopalganj	987.87	140	623	7	91	37	..	..	30	194	89
33	Dakshin Sisubari	553.09						..	..	..	182	..
34	Sisubari P	487.43	90	430	39	163	211	2	..	32	2	20	
35	Paschim Baragharia P	1,287.27	184	997	165	591	350	8	..	24	6	16	
36	Gourgram P	1,036.93	178	967	180	375	547	6	..	10	1	26	
37	Dakshin Putimari	1,048.90	197	1,019	245	382	558	5	3	23	10	38	
38	Barnes 2P, PO	1,157.39	252	1,563	252	547	530	10	..	59	267	127	
39	Uttar Putimari	269.64	31	186	30	71	109	..	..	..	..	6
40	Dakshin Dangapara	1,084.44	154	761	27	302	426	..	..	5	..	28
41	Dakshin Bhuskadanga P	1,173.02	140	785	23	61	724	..	..	..	..	..
42	Uttar Bhuskadanga P	1,262.91	148	742	92	268	409	..	..	28	..	37
43	Gartali Jalpes P	568.20	100	550	70	192	225	4	3	20	47	59	
44	Purba Salbari P	1,232.96	142	766	100	128	587	1	..	..	19	31
45	Paschim Salbari	797.57	68	405	61	89	312	..	..	..	1	3
46	Purba Harmati P	786.32	33	174	19	68	102	..	..	4	..	..
47	Paschim Harmati	1,184.32	126	656	118	224	296	3	..	113	..	20	
48	Bara Kamat	1,291.22	218	1,110	124	323	719	11	..	11	..	41	
49	Purba Sisubari	227.68	40	202	11	77	119	..	..	4	..	2
50	Pencha Hati S, 3P	1,047.55	431	2,115	465	451	586	32	35	393	295	306	
51	Dharmmapur S, 4P	6,883.39	862	4,490	799	1,483	2,231	45	39	270	224	198	
52	Padamati D, P	4,555.42	477	2,400	401	868	1,322	3	..	44	82	81	
53	Baikur Gaurgram S, 3P	5,295.65	751	3,740	409	2,060	1,297	22	..	124	94	143	
54	Khayerkhal P	1,094.28	139	744	98	316	402	1	..	13	..	12	
55	Bhotpatti PO	1,232.38	288	1,387	181	409	564	1	..	257	44	46	
56	Balasan	1,040.50	91	419	31	199	141	..	..	67	..	12
57	Paharpur	945.19	113	644	104	387	218	3	..	15	..	21	
58	Brahmapur	1,236.83	125	578	61	278	234	5	..	9	..	35	
59	Purba Baragharia P	922.25	98	533	79	533	..	..	..	..	..	..
60	Jabar Amli P	2,584.33	367	1,876	361	1,326	438	19	..	12	20	59	
61	Saptihari 2P	9,744.65	1,296	6,266	654	3,537	2,406	40	22	115	21	125	
62	Purba Dehar 2P	1,303.22	206	1,004	258	447	425	..	1	5	21	105	
63	Bhangamali P, PO	1,361.56	182	944	41	432	464	8	26	5	..	9	
64	Hasludanga P, D	896.27	143	786	89	298	458	3	..	24	1	2	
65	Char Churahbandar	2,483.34	148	586	37	310	250	5	..	6	..	15	
66	Bhangar Hat P	1,332.01	179	840	150	276	491	13	..	22	1	37	
67	Chura Bhandar P	1,111.36	168	855	163	285	472	..	..	72	..	26
68	Rather Hat P	938.59	147	750	188	325	402	..	..	7	1	15
69	Dhaolaguri	1,207.28	140	756	97	240	460	4	..	20	6	26	
70	Charerbari 2P	1,106.79	174	1,055	194	112	583	139	176	1	1	43	
71	Botgara P	2,339.15	235	1,217	157	397	726	5	1	39	18	31	
72	Amguri P	1,650.61	237	1,147	63	233	855	41	1	..	..	17
73	Chappar P	1,324.33	201	1,029	87	406	570	..	..	3	..	50
74	Purba Buragila P	2,186.71	197	1,100	121	510	503	1	..	13	1	72	
75	Satvendi	1,087.01	95	480	41	219	243	..	..	8	..	10
76	Dakshin Kalamati	697.06	76	369	3	203	166	..	..	..	..	..
77	Chengmari P, PO	1,218.65	121	602	25	231	365	2	..	1	..	3	
78	Kajaldighi P	844.90	108	568	11	305	256	1	..	1	2	3	
79	Uttar Kalamati P	996.49	127	599	7	308	249	19	..	9	3	11	
80	Jhar Baragila P	1,605.08	178	770	105	490	239	15	..	..	7	19
81	Kaoagap	1,183.66	138	682	36	267	387	..	..	13	..	15
82	Panbari P	2,846.53	202	1,042	120	364	564	3	3	42	20	46	
83	Ramsai (T.E.) D	1,580.73	176	841	89	107	230	..	..	370	38	96
84	Jadabpur (Tea Garden)	547.76	182	655	37	1	..	..	..	600	11	35
85	Nimna Tandu Forest	9,600.00	53	417	39	10	48	8	28	321	..	2	
86	Forest Ramsai	2,492.10						..	..	..	..	..
87	Dobbari	350.03						..	..	..	..	..
88	Purba Dobbari	190.95	34	166	4	107	54	..	..	..	..	5
89	Upar Tandu Forest P	29,949.00	124	576	74	..	..	..	..	572	..	4
Total (Entirely Rural)		251.5 sq. miles	17,397	88,315	15,447	31,880	37,627	1,969	678	4,788	3,482	2,947	4,944

J. L. (No.	Name of Village or Town/Ward	Area of Village or Town/ Ward in acres	No. of occupied houses	Popu- lation	No. of literates	I	II	III	IV	V	VI	VII	VIII
1	2	3	4	5	6	7	8	9	10	11	12	13	14
4 P. S. Nagrakata													
90	Jaldhakka Tea Garden I	763.33	182	755	119	71	3	..	..	515	95	14	57
91	Jaldhakka Tea Garden II	119.00											
92	Altadanga Tea Garden I	313.47											
93	Altadanga Tea Garden II	215.75	141	670	88	265	350	19	4	11	11	..	10
94	Khairkata P	904.10											
95	Uttar Nunkhawadanga	704.00											
96	Dhondasimla	1,192.61	146	734	57	186	498	4	8	1	2	..	35
97	Dhumpara	1,271.96	80	312	62	144	159	7	..	..	..	..	2
98	Kalabari Tea Garden I	812.54	344	1,308	123	..	..	..	..	1,259	10	..	39
99	Kalabari Tea Garden IV	143.93											
100	Kalabari Tea Garden II	229.40											
101	Kalabari Tea Garden III	222.49	183	904	43	195	671	11	..	6	17	..	4
102	Angrabhasa P	1,554.77											
103	Kalabari P	1,891.84											
104	Hridaypur	1,206.54	178	879	16	850	28	..	..	13	1	..	79
105	Uparkalabari	1,147.54	85	355	..	355	..	..	..	..	..	..	1
106	Diana Forest	15,373.00	7	42	17	..	..	..	..	40	1	..	1
107	Bamandanga Tea Garden P	2,335.12	555	1,932	124	..	..	..	..	1,899	8	3	22
108	Tandu Tea Garden II	11.20	322	1,484	124	..	..	..	..	1,416	16	8	44
109	Tandu Tea Garden I	565.09											
110	Tandu Tea Garden III	64.75											
111	Tandu P	1,048.74	33	172	10	26	134	..	..	..	1	..	11
112	Kharbari P	1,708.07	189	912	23	95	614	..	85	27	19	..	72
113	Sukapara	1,035.93	142	701	15	72	429	31	25	27	43	1	73
114	Sukhanibasti	879.79	164	742	94	37	478	6	26	40	43	5	107
115	Nagrakata D, P, PO	171.12	60	256	72	32	119	2	27	8	4	32	32
116	Nagrakata Tea Garden	2,326.04	390	1,931	155	..	..	..	..	1,727	40	48	116
117	Hila	117.80	Uninhabited										
118	Hila Tea Garden	1,527.21	448	1,554	213	..	..	..	..	1,523	17	5	9
119	Navasuli Tea Garden P	2,005.26	636	2,564	490	..	..	..	..	2,228	134	89	113
120	Hope Tea Garden P	1,802.79	496	1,854	184	..	..	..	..	1,720	93	16	25
121	Jiti Tea Garden P	2,607.53	580	2,201	285	..	..	..	..	2,144	23	8	26
122	Kurti Tea Garden P	1,953.85	365	1,743	115	..	..	..	..	1,664	14	21	44
123	Bhagatpur Tea Garden P	3,433.94	956	3,876	414	2	..	1	..	3,443	59	113	258
124	Gatia Tea Garden P	2,139.89	659	2,082	112	..	6	..	13	2,014	23	2	24
125	Chhar Tandu	1,069.08	129	707	40	88	566	1	30	6	..	..	16
126	Ghasmari	785.36	83	408	38	55	327	8	18	..	..	..	..
127	Grass More Tea Garden P	2,561.11	538	2,041	211	5	2	..	..	1,919	32	23	60
128	Luksan Tea Garden P	2,318.22	573	2,080	103	..	..	..	..	1,593	252	54	181
129	Caron Tea Garden P	1,462.99	289	1,066	120	..	..	..	..	977	11	13	65
130	Chengmari Tea Garden P	6,275.95	1,181	4,912	533	..	2	..	..	4,555	44	142	169
Total		106.7	10,368	42,389	4,048	2,863	5,118	90	236	30,775	1,013	597	1,697
(Entirely Rural)		sq. miles											

5 P. S. Dhupguri

131	Red Bank Tea Garden	1,890.51	342	1,359	152	..	..	3	6	1,306	9	3	32
132	Ambari Tea Garden P	1,764.51	686	2,520	276	..	..	..	..	2,406	53	3	58
133	Chamu Richi Tea Garden P	2,231.58	658	2,790	178	..	..	..	..	2,081	391	65	253
134	Chuna Bhati Tea Garden P	1,891.52	527	1,953	200	..	..	..	..	1,847	7	48	51
135	Harital Guri Tea Garden	1,629.37	232	933	77	..	..	..	..	908	7	..	18
136	Diana Tea Garden 2P	1,225.15	392	1,518	58	..	..	..	..	1,487	1	6	24
137	Debpura Tea Garden 2P	1,550.80	473	2,069	260	..	..	..	..	1,862	22	19	166
138	Chapaguri	199.77	Uninhabited										
139	Haritalguri Tea Garden III	842.35	475	1,636	191	..	..	..	..	1,582	10	..	44
140	Kathalguri Tea Garden P	2,405.14	698	2,753	333	1	2	..	..	2,654	59	6	31
141	Riabari Tea Garden P	1,338.09	322	1,469	70	..	..	..	..	1,400	10	8	51
142	Palasbari Tea Garden P	1,601.89	362	1,424	208	..	..	..	..	1,374	21	1	28
143	Laksmipara Tea Garden	1,496.88	604	2,239	159	..	..	..	..	2,127	16	4	92
144	Prayagpur	1,263.53	75	303	10	19	10	..	..	274	..	..	..
145	Jalapara	866.48	111	456	16	..	136	..	..	310	10	..	..
146	Naldangapara Tea Garden	741.44	179	765	15	..	..	..	..	746	16	..	3
147	Totapara Tea Garden P	1,192.86	447	1,296	118	..	..	..	..	1,202	47	..	47
148	Mogalkota Tea Garden P	771.78	346	1,303	199	..	..	..	..	1,233	4	4	62

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/ Ward in acres	No. of occupied houses	Popu- lation	No. of literates	I	II	III	IV	V	VI	VII	VIII
1	2	3	4	5	6	7	8	9	10	11	12	13	14
5 P. S. Dhupguri—contd.													
149	Chapaguri Khanda	49.39				Uninhabited							
150	Uttar Salbari	1,044.12	97	525	10	204	321	..	..	..	..	..	..
151	Chanadipa	896.74	142	735	38	230	502	..	..	..	..	..	3
152	Dakshin Salbari P	1,058.50	132	665	40	230	361	15	..	24	20	..	15
153	Madhya Salbari	677.89	126	650	55	307	340	..	..	..	..	..	3
154	Maraghat Forest	1,1367.00	622	816	26	..	114	25	..	671	..	..	6
155	Gondrapara Tea Garden	2,428.40	1,030	3,193	241	..	..	..	..	3,003	65	11	114
156	Banarhat Tea Garden S, P	2,182.25	699	3,670	630	..	..	..	..	2,470	727	126	347
157	Karbala Tea Garden P	2,708.49	822	2,829	333	1	..	..	..	2,701	27	33	67
158	Binnaguri Tea Garden P	3,930.57	697	2,715	201	..	..	..	..	2,445	21	..	249
159	Maraghat Tea Garden	1,723.25	502	1,768	293	..	..	..	..	1,658	26	6	78
160	Haldibari Tea Garden P	2,806.99	1,064	3,468	214	..	..	..	..	3,345	30	..	93
161	Telipara Tea Garden I	3,065.86	663	2,650	311	..	..	..	..	2,454	30	6	160
162	Tolipara Tea Garden II	774.33											
163	Gairkata Tea Garden	2,941.96	533	1,813	94	..	..	..	..	1,768	2	2	41
164	Gairkata 2P, D	732.26	337	1,819	291	211	472	26	4	268	373	115	350
165	Sako Jhora P	1,154.99	199	1,011	31	432	451	8	..	68	46	..	6
166	Sajanpara	718.20	136	625	60	93	414	..	52	24	11	..	31
167	Pradhanpara	1,288.39	213	1,109	95	233	749	..	33	32	6	14	42
168	Uttar Dangapara	1,595.63	207	1,022	117	275	736	1	1	1	1	..	7
169	Dakshin Sakojhora	398.53	68	288	8	115	169	4	..	..	..	..	..
170	Sonakhuh	466.05	71	310	37	173	113	17	..	3	..	..	4
171	Malliksobha P	1,205.50	251	1,133	175	1,017	54	1	..	13	10	..	38
172	Purba Mallik Para P	1,474.24	180	982	59	506	318	..	103	9	6	..	40
173	Dakshin Gosairhat	1,137.98	129	825	70	249	483	20	3	19	19	..	32
174	Uttar Gosairhat P	882.14	117	704	100	253	353	48	48	..	..	..	2
175	Niranjanpat	1,064.91	207	901	122	399	475	1	6	6	..	..	14
176	Gosairhat Forest	1,876.00	41	168	51	..	..	..	..	114	42	..	12
177	Garakhuta P	608.05	105	456	55	159	277	..	..	3	5	..	12
178	Daksin Khuttimari	602.56	152	649	54	211	421	6	..	..	2	..	9
179	Madhya Khuttimari	1,546.11	204	1,152	122	401	634	9	..	16	..	..	92
180	Uttar Khuttimari	1,350.21	208	1,032	51	348	614	..	..	32	..	..	38
181	Purba Duramari P	1,207.26	217	1,027	197	419	547	11	..	10	..	..	40
182	Paschim Duramari	625.38	78	384	65	119	255	..	..	..	..	..	10
183	Uttar Jhar Altagram	507.76	64	292	44	112	155	1	..	12	5	..	7
184	Dakshin Nunkhawadanga	565.62	67	309	7	56	253	..	..	..	..	..	..
185	Bhatapara	487.87	143	606	95	129	339	..	..	80	43	..	15
186	Fatak Tari	1,224.63	174	785	43	245	511	..	..	6	5	..	19
187	Chamtu Mukhi	1,091.91	186	910	40	405	463	2	..	12	1	..	27
188	Lakshikantapur Tea Garden P	903.14	170	721	82	..	..	..	1	664	7	4	45
189	Bamantari P	1,024.79	119	587	51	207	380	..	..	..	..	..	..
190	Paschim Dangapara	623.19	110	577	21	240	313	..	..	5	1	..	18
191	Garialtari	947.30	143	779	65	286	476	..	..	..	1	..	15
192	Ramsai Forest II	1,200.00	3	14	8	..	..	..	..	14	..	..	..
193	Chauhaddi P	768.60	103	520	20	232	255	7	..	10	7	..	9
194	Paschim Daukimari	866.49	177	813	59	390	363	..	..	10	11	..	39
195	Madhya Daukimari	1,060.81	210	990	30	452	430	5	..	22	..	..	81
196	Purba Daukimari P, D	1,65.14	309	1,176	54	312	769	2	..	31	3	..	59
197	Uttar Kathulia	1,023.53	157	710	117	206	442	6	4	26	1	..	25
198	Dakshin Kathulia	845.57	158	666	90	279	300	5	26	21	1	..	34
199	Parkumlai	997.92	192	861	61	302	559	..	..	..	..	..	..
200	Tuklimari	793.87	177	572	122	427	145	..	..	..	..	..	..
201	Dakshin Jhar Altagram	893.89	188	895	100	373	446	31	..	14	5	..	26
202	Bhandani P	993.80	169	821	99	202	557	30	..	10	4	..	18
203	Char Charabari	899.68	169	662	131	294	325	6	..	16	..	..	21
204	Gadhear Kutu P	882.72	101	428	51	276	147	2	..	..	..	..	3
205	Bagri Bari	1,086.33	145	690	156	326	353	11	..	..	..	..	..
206	Kursamari	846.52	117	541	65	236	288	3	..	2	..	..	12
207	Paschim Mallikpara P	1,430.68	229	1,077	158	610	391	..	..	6	4	..	66
208	Uttar Altagram	985.46	164	711	60	250	426	25	..	1	2	..	7
209	Kalirhat P	1,033.46	231	968	100	319	563	2	22	7	6	..	49
210	Jharmagurmari	1,158.43	139	713	63	319	380	..	5	3	..	..	6
211	Purba Magurmari	933.24	161	843	168	274	407	32	8	41	59	..	22
212	Paschim Magurmari P	1,120.44	256	1,147	155	458	580	33	..	28	13	..	35
213	Purba Altagram	1,044.21	140	718	100	338	331	14	21	5	..	..	9
214	Mainatali P	1,471.93	206	1,101	106	435	611	8	..	8	3	..	36
215	Dakshin Altagram	1,257.96	204	1,083	35	457	575	3	2	..	..	..	46
216	Jakhaikona	245.11	39	198	35	118	75	..	..	..	..	..	5
217	Patkidaha P	849.18	69	383	39	188	193	..	..	..	..	..	2
218	Dakshin Dangapara	940.91	113	572	59	252	279	3	22	..	..	..	16

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	I	II	III	IV	V	VI	VII	VIII
1	2	3	4	5	6	7	8	9	10	11	12	13	14
5 P. S. Dhapguri—concl.d.													
219	Dambari P	1,101.63	96	441	26	181	218	20	..	10	..	..	12
220	Baragharia P	1,597.49	217	1,075	62	457	602	..	..	7	4	..	5
221	Bhemtia	695.09	116	623	73	252	284	..	..	4	10	..	73
222	Dhapguri 5, 2P, D	889.90	288	1,399	556	237	321	..	21	71	486	1	262
223	Baratiguri	1,379.64	537	2,961	1,133	362	661	36	10	157	837	12	886
224	Uttar Boragari	1,326.67	250	1,213	117	429	775	3	..	..	2	..	4
225	Madhya Boragari P	2,179.51	280	1,441	167	690	705	..	..	1	15	..	30
226	Dakshinkhairbari P	1,702.18	121	552	52	287	258	1	..	..	2	..	4
227	Bhotpara	718.49	112	488	60	335	131	3	19	..	..	..	..
228	Khalagram P	1,416.56	208	978	74	860	90	15	2	..	..	..	11
229	Gadang P	818.99	81	421	38	219	195	3	..	..	..	..	4
230	Kathapara	815.18	114	662	87	390	257	..	..	3	1	..	11
231	Kazipara P	1,114.25	176	856	52	420	417	..	..	..	..	..	19
332	Purba Dangapara	914.66	114	735	44	404	312	..	6	..	..	..	13
233	Paschim Salbari P	1,145.98	184	918	100	375	434	2	8	32	24	..	43
234	Purba Salbari	1,301.92	186	1,002	50	409	494	28	50	15	1	..	5
235	Jhar Salbari	1,664.53	221	992	91	310	606	..	14	9	13	..	40
236	Jura Pani P	781.97	121	486	16	203	256	3	19	..	..	..	5
237	Pundibari	531.18	59	348	24	181	155	2	3	1	2	..	4
238	Red Bank	66.23	..	..	..	..	..	..	..	..	..	..	..
131						Uninhabited							
Total (Entirely Rural)		216.8 sq. miles	26,161	110,910	12,277	23,611	29,572	542	519	47,320	3,731	497	5,118

5 P. S. Mal

1	Paschim Totgaon	753.67	19	93	8	Uninhabited	32	7	37	4	4	9	
2	Purba Totgaon	1,163.77											
3	Sundaribasti	1,117.81											
4	Ellenbury Tea Garden P	1,003.94	325	1,322	112	37	79	35	1,063	7	10	91	
5	Washbury Tea Garden P	1,263.71	604	2,021	362	..	..	7	6	1,610	156	134	108
6	Kalagaity Tea Garden	518.60	vide J. L. 11	451	32	..	..	..	..	451	..	..	..
7	Kalagaity	1,037.00	36	149	..	..	115	5	13	9	7	..	..
8	Saogaon	2,469.07	99	471	2	113	303	..	17	29	..	..	9
9	Saogaon Tea Garden	1,184.61	Included in J. L. Nos. 14, 15, 16 and 17										
10	Moneyhope Tea Garden	406.62	694	589	30	4	..	..	..	565	..	..	20
11	Phulbari Tea Garden I P	488.38		1,247	174	2	3	..	..	1,035	43	50	114
12	Gandhavi Tea Garden	776.94		592	30	..	..	..	..	591	1	..	..
13	Patibari Tea Garden	402.42	J. L. No. 11										
14	Bagrakote Tea Garden I	397.87	961	4,094	547	25	3	..	3,607	57	189	213	
15	Bagrakote Tea Garden II	320.75											
16	Bagrakote Tea Garden V, P	562.95											
17	Bagrakote Tea Garden III	965.17	7	39	..	23	11	..	5	..	..	..
18	Phulbari Tea Garden	249.72											
19	Uttar Phulbari	691.39											
20	Dakshin Phulbari	1,299.76	28	143	..	53	90	..	..	..	..	..
21	Hanskhal	1,790.24	183	901	43	49	617	..	110	41	..	..	84
22	Odlabari Tea Garden P	588.57	351	1,579	92	..	..	..	..	1,559	8	1	11
23	Targhora	1,097.78	108	541	30	22	368	..	39	89	4	2	17
24	Dakshin Odlabari	1,485.52	66	471	52	92	269	4	..	79	21	..	6
25	Odlabari P	2,292.29	313	1,645	210	27	436	3	26	327	370	61	395
26	Manabari Tea Garden II	794.47	359	1,513	118	..	..	..	..	1,358	12	56	87
27	Manabari Tea Garden I	422.79											
28	Manabari P, PO	1,508.68											
29	Turibari	1,445.89	111	519	37	98	135	63	..	112	64	8	39
30	Patharjhora Tea Garden P	2,140.18	552	2,207	255	6	4	..	..	2,121	31	2	43
31	Monglass Tea Garden	1,701.04	464	1,616	51	..	..	..	..	1,547	8	23	38
32	Dalangkote Tea Garden 2P	989.84	363	1,416	116	..	2	..	..	1,354	14	23	23
33	Malnadi Tea Garden P	329.24	114	457	73	..	..	..	..	433	1	2	21
34	Gurjangjhora Tea Garden P	816.09	273	955	106	..	..	..	..	929	8	8	10
35	Syli Tea Garden P	1,879.86	648	2,390	209	..	..	..	..	2,218	119	9	44
36	Rangamati Tea Garden P	3,577.28	770	2,668	247	..	..	..	..	2,501	14	17	136
37	Khas Jangal I	15.24	152	625	134	..	..	..	..	523	5	6	91
38	Khas Jangal II	126.21											
39	Rani Chera Tea Garden I, P	774.63											
Uninhabited													

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	I	II	III	IV	V	VI	VII	VIII
1	2	3	4	5	6	7	8	9	10	11	12	13	14
6 P. S. Mal- contd													
40	Ranichera Tea Garden II & III, P	553.58	Ind SL. 39	577	23	7	..	..	..	551	..	11	8
41	Chgl Tea Garden	391.10		669	46	11	..	..	..	612	..	35	11
42	Chyt Tea Garden	207.08		288	28	..	..	..	..	255	22	5	6
43	Balabari Tea Garden P	1,184.48	135 596	596	67	..	..	..	..	576	7	..	13
44	Bethari Tea Garden	675.53		590	10	..	..	..	..	581	5	..	4
45	Damdum Tea Garden I	790.09		419	1,733	63	..	..	..	1,650	12	24	47
46	Paschim Damdum	1,694.01	With 1 L. 45	805	152	44	375	3	13	67	148	15	140
47	Damdum Tea Garden II	58.16		..	..	..	..	..	..	..	..	..	..
48	Barons Tea Garden I	738.37		..	..	..	..	..	..	..	..	..	..
49	Barons Tea Garden II & III, P	1,310.45	Ind SL. 45	1,590	63	..	..	..	..	1,466	97	8	19
50	Barons Tea Garden IV, P	481.34	..	..	..	..	..	..	..	..	..	..	..
51	Bantguri Tea Garden P	2,641.36	655	2,780	234	..	..	..	..	2,443	23	3	311
52	Kunlai Tea Garden P	1,195.99	263	1,314	77	..	..	..	..	1,284	4	..	26
53	Damdum Hat P	59.75	141	507	63	..	128	..	2	248	5	17	107
54	Upper Neora Tea Garden	303.88	Included in J. L. No. 74										
55	Sisubari Tea Garden P	1,609.00	397	1,215	192	..	..	..	..	1,160	1	4	50
56	New Gleno Tea Garden P	1,433.47	434	1,588	205	..	..	..	..	1,479	9	22	78
57	Nidambhora Tea Garden P	889.88	298	1,065	169	..	..	..	..	1,013	15	4	33
58	Tumbari Tea Garden P	719.86	158	625	7	..	..	..	..	565	4	15	41
59	Hat Hat Pathar Tea Garden II	853.85	639	..	..	..	..	..	..	..	..	..	..
60	Hatkarpathar Tea Garden I, S. P	522.95		1,635	141	1	..	..	6	1,461	16	38	113
61	Hatkarpathar Tea Garden III	336.90		..	..	..	..	..	..	..	..	..	..
62	Mal 2P, D, P.O	632.28	717	3,760	1,650	62	149	3	2	273	1,339	585	1,347
63	Tesmala	1,372.47	244	1,174	103	261	879	..	..	10	16	31	37
64	Hatkarpathar P	2,120.30	314	1,928	114	237	1,443	3	85	18	14	..	128
65	Demkajhora	1,782.76	122	695	30	185	470	..	..	8	..	..	32
66	Purba Damdum	1,231.09	166	655	66	141	483	15	..	..	8	..	8
67	Nipuchhapur Tea Garden P	891.63	271	1,090	71	..	..	..	..	1,058	..	19	13
68	Nichahala	1,048.59	136	752	12	235	229	..	..	37	108	57	86
69	Kantadighi Kumarpura P	1,102.75	152	872	62	153	642	..	..	6	9	..	62
70	Kumla	1,003.93	74	428	9	5	405	..	..	..	..	..	18
71	Neora P	815.57	115	524	33	113	340	..	..	12	11	12	36
72	Purba Kantadighi Kumarpura	190.91	12	43	..	7	36	..	..	..	..	..	..
73	Dakshin Kantadighi Kumarpura	749.84	94	487	..	96	370	15	..	..	..	..	6
74	Neora Nadi Tea Garden P	1,618.04	487	1,917	107	..	..	..	..	1,837	2	27	51
75	Kodal Kati	965.33	116	602	43	129	442	..	..	17	..	..	14
76	Rajadanga 2P	886.90	75	433	62	120	276	..	..	14	15	..	8
77	Nipuchhapur	1,319.02	109	654	15	135	463	..	26	14	1	..	15
78	Bargharia P	1,168.75	176	1,017	74	150	785	12	36	2	6	..	28
79	Dhalabari	1,121.20	143	991	142	171	615	6	60	8	12	5	114
80	Anandapur	1,025.74	145	847	19	70	674	9	12	31	..	2	49
81	Anandapur Tea Garden P	902.42	420	1,670	239	321	..	..	..	1,217	6	15	111
82	Dakshin Hanskhali P	1,638.89	234	..	..	..	..	..	..	..	..	..	..
83	Uttar Hanskhali	570.67		1,225	92	162	781	34	212	5	15	..	16
84	Apalchanda Forest 2P	12,928.00		186	1,150	109	..	6	..	1,040	3	..	100
85	Gopalchanda Tea Garden	514.07	158	669	50	..	..	..	..	656	..	..	13
86	Apalchanda	455.60	Uninhabited										
87	Sidabari	874.20	75	362	28	14	232	37	10	..	..	..	69
88	Gochimari P	1,066.05	156	829	112	220	513	7	8	8	14	2	57
89	Neolabasti P	1,348.98	156	791	95	206	453	19	..	8	10	..	95
90	Golabari	850.78	94	424	45	63	314	26	..	15	..	..	6
91	Paschim Dolaigaon P	769.04	103	545	46	153	350	14	..	8	..	..	20
92	Purba Dolaigaon	1,138.84	98	500	79	171	253	7	..	12	12	7	38
93	Malhati Forest	320.00	Uninhabited										
94	Malhati Tea Garden P	1,291.64	613	2,321	108	..	..	..	..	2,153	6	31	131
95	Uttar Chengmari	374.29	32	187	16	21	157	..	..	..	5	..	4
96	Uttar Majhgram	1,113.28	149	824	47	135	664	..	..	..	..	..	25
97	Jhar Majhgram P	622.29	117	688	51	259	400	10	..	9	..	..	19
98	Kranti PO	1,654.38	306	1,468	97	221	845	4	44	77	181	..	96
99	Dakshin Majhgram P	849.59	98	567	51	16	511	..	26	3	..	..	11
100	Chikanmat	711.55	81	472	24	64	350	..	34	..	..	..	24
101	Uttar Saripakuri P	1,438.63	192	1,030	80	340	618	1	21	6	5	..	39
102	Dakshin Saripakuri	1,100.79	156	821	67	207	499	1	29	56	..	..	29

J. L. No	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	I	II	III	IV	V	VI	VII	VIII	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
6 P. S. Mal—concl.														
103	Chapadanga P.	1,061.81	86	745	85	296	387	2	4	19	6	..	31	
104	Dakshin Khalpara 2 P.	1,109.80	182	1,011	54	133	844	3	8	1	..	..	22
105	Uttar Khalpara P.	1,349.46	157	839	83	88	648	33	33	1	24	..	12	
106	Chengmani Hat	792.48	56	274	27	24	183	35	..	16	3	..	13	
107	Chengmani Dangapara	829.18	12	78	..	Uninhabited								
108	Dakshin Chengmani	1,201.33												
109	Purba Manamari	699.05												
110	Paschim Manamari	706.24												
111	Paschim Premganj	815.29	12	78	..	35	39	..	..	..	..	..	4
112	Premganj Majhi	875.56				Uninhabited								
113	Purba Premganj	668.24												
114	Paschim Sangapara P.	944.60	9	51	6	32	9	..	..	10	..	..	..
115	Purba Sangapara	799.99	68	354	14	159	182	..	1	9	..	..	3
116	Basusuba P.	1,536.49	119	556	77	193	334	..	..	15	1	..	13
117	Bidurerdanga P.	568.75	94	478	83	177	301	..	..	..	..	..	..
180	Chengmani Forest	918.40	Uninhabited											
90														

Total (Entirely Rural)	197.4 sq. miles	19,189	88,158	9,039	6,525	21,558	416	909	49,321	3,145	1,599	5,685
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7 P. S. Matiali

118	Dakshin Matiali P.	1,402.20	177	933	80	336	566	..	10	7	14
119	Dakshin Chak Maulam	926.24	147	735	66	141	496	13	43	22	20
120	Adabari	734.46	105	563	26	181	326	..	..	7	..	..	49
121	Chak Maulam P.	1,063.86	173	963	150	281	577	..	..	14	4	..	87
122	Uttar Matiali	1,372.79	170	915	66	173	700	..	..	2	25	..	15
123	Jhar Matiali P.	1,835.88	273	1,352	143	332	941	..	..	48	19	..	12
124	Lataguni P.	666.79	299	1,600	514	119	227	..	..	431	497	148	178
125	Nimna Landu Forest	9,421.00	70	517	15	152	..	..	..	359	..	..	6
126	Chhaoaphali	678.65	56	221	9	34	126	57	4	..	..	..	..
127	Baradighi Tea Garden P.	1,838.01	919	2,960	323	..	..	..	..	2,780	38	15	127
128	Baradighi PO	587.74	30	149	11	..	145	..	..	..	2	..	2
129	Mathachulka	1,455.24	179	1,013	50	127	732	88	12	19	16	..	19
130	Salbari P.	2,051.76	214	1,149	99	166	903	4	11	22	20	..	23
131	Neora Majhi	960.87	120	656	48	81	548	27	..	..	..	..	..
132	Batangole Tea Garden	781.16	529	8	..	..	..	..	..	528	..	..	1
133	Sathkaya Tea Garden P.	1,880.76								2,529	6	1	57
134	Sonagachhi Tea Garden I, P.	1,452.83	487	1,381	108	1	..	1	..	1,292	4	13	70
135	Nakhati Tea Garden P.	1,179.86	339	1,296	25	..	..	..	..	1,273	7	..	16
136	Aibhil Tea Garden P.	1,735.46	483	1,762	162	..	..	..	..	1,561	3	11	187
137	Nagasuni Tea Garden P.	2,382.49	664	2,329	136	..	..	..	..	2,278	1	9	41
138	Juranti Tea Garden P.	1,843.84	577	2,168	219	..	..	..	..	2,052	20	24	72
139	Engo Tea Garden P.	399.84	129	478	80	..	..	..	..	451	6	1	20
140	Chakami Tea Garden	1,924.79	596	2,383	125	..	..	..	..	2,288	25	25	45
141	Samsung Tea Garden P.	1,878.01	821	3,816	156	..	..	..	1	3,403	66	154	192
142	Yongtong Tea Garden P.	1,244.03	448	1,699	229	..	..	..	..	1,554	38	59	48
143	Matiali Tea Garden P.	2,621.50	783	2,654	424	..	..	..	..	2,503	16	52	83
144	Chalsa Tea Garden P, PO	1,472.52	573	2,003	122	..	..	..	..	1,861	30	16	96
145	Chalsa Tea Garden III	88.24								..	..	..	..
146	Matiali Hat I, D, PO	77.04								152	787	89	299
147	Indong Tea Garden P.	2,130.45	580	2,040	156	..	..	..	..	1,969	6	14	51
148	Kilkote Tea Garden	1,656.29	431	1,541	73	..	..	..	..	1,414	8	8	111
149	Chalsa Mahabari	737.37	250	1,021	62	30	331	..	5	220	129	143	163
150	Mangalbari	1,608.52	112	577	46	69	469	10	..	21	1	1	6
151	Sathkaya Tea Garden II	44.25	603	104	4	..	85	..	..	19	..	..	..
152	Sathkaya Tea Garden IV P	290.71								..	..	..	..
153	Sathkaya Tea Garden V	94.78								958	..	..	142
154	Khariar Bandar	575.30	23	104	..	..	..	..	..	..	..	..	..
155	Batabari Tea Garden P	857.54	281	1,100	75	..	..	..	..	..	..	..	..
156	Paschim Batabari	326.93	29	134	2	33	98	2	..	..	..	..	1
157	Purba Batabari P	1,332.25	149	835	51	231	511	90	..	..	..	..	3
158	Uttar Dhupphora	1,002.01	155	896	12	60	749	..	..	5	2	..	10
159	Dakshin Dhupphora P.	1,400.41	153	858	71	265	565	13	..	12	2	..	1

Total (Entirely Rural)	92.1 sq. miles	11,908	49,188	4,757	2,820	9,095	292	43	32,045	1,821	905	2,267
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J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	II	III	IV	VI	VII	VIII		
1				5				10	12	13	14		
ALIPUR DUARS SUBDIVISION													
8 P. S. Madarhat													
1	Nepania	1,007.70	32	150	1	8	130	6	1		5		
2	Rit' Forest	3,136.00	36	84	16	..	..	..	54	..	30
3	Dheklapara T.G., P	1,390.44	322	1,221	500	..	3	..	1,162	26	21		
4	Joy Birpara T.G., 2P	1,030.31	373	1,438	556	..	..	..	1,380	29	28
5	Bandapani T.G., P	5,819.37	589	2,438	817	2	..	..	2,227	63	72
6	Garochera Bandapani	481.75				Unmhabited							
7	Makrapara T.G., 2P	2,863.71	464	1,834	481	..	..	..	1,632	33	52
8	Tulsi Para T.G., P	2,502.79	364	1,407	388	11	..	..	1,346	18	31
9	Garganda T.G., P	2,332.36	588	2,294	360	..	..	..	2,184	24	69
10	Lankapara T.G., 2P	4,992.75	858	3,629	293	33	..	..	3,287	67	137
11	Lankapara Hat	23.55	68	357	31	..	..	15	74	195	12
12	Titi Forest	7,715.00	2	2	1	..	..	..	2	..	..
13	Totopara	1,996.76	116	567	102	547	..	..	..	19	1
14	Holapara Forest	3,354.00	5	20	3	..	19	..	1	..	..
15	Bullalguni	1,008.90	84	417	100	95	315	..	..	1	6
16	Uttar Khairbari	501.91	47	201	14	13	176	..	12	..	..
17	Purba Khairbari	608.48	118	571	153	12	500	..	55	..	4		
18	Uttar Madarhat D. P.O	1,061.08	300	1,580	538	53	259	13	39	466	269		
19	Madhya Madarhat	851.55	111	478	10	154	206	..	14	58	19		
20	Purba Madarhat	625.36	59	272	50	154	88	..	..	2	22
21	Dakshin Madarhat	816.32	54	246	35	123	103	..	..	8	12
22	Paschim Madarhat	820.97	73	370	18	190	163	..	15	..	2		
23	Khairbari Forest	4,512.00	15	103	6	..	76	..	..	5	22
24	Dakshin Khairbari P	612.74	90	560	38	167	348	18	..	5	22		
25	Islamabad	869.24	170	821	107	291	501	1	..	1	27		
26	Paschim Khairbari	728.77	141	675	81	106	465	20	26	15	21		
27	Madhya Chekamari	649.52	78	405	29	56	294	1	35	5	13		
28	Uttar Chekamari P	961.11	111	605	37	51	429	6	100	6	13		
29	Madhya Khan-Bari P	1,248.08	168	792	48	43	710	..	33	1	..		
30	Mujnai T.G., 2P	1,837.48	581	2,416	288	3	..	..	..	2,291	86
31	Hantupara T.G., P	3,039.61	974	3,699	72	38	2	..	..	3,409	106
32	Dumchipara T.G.	2,571.84	820	3,481	740	..	..	..	..	3,328	65
33	Ramphora T.G., P	1,494.00	406	2,082	293	..	..	..	..	1,708	96
34	Dumchi Forest	2,964.00	16	101	2	23	..	..	..	76	2
35	Uttar Rangal-Bazna P	953.44	148	748	57	231	465	..	..	5	37
36	Madhya Datto	1,293.69	769	1,225	193	123	855	51	..	90	66		
37	Dakshin Datto P	800.64	97	514	23	105	390	..	..	3	11
38	Dakshin Sisubari	810.89	80	464	31	23	430	..	..	4	7
39	Uttar Sisubari	646.94	112	616	144	102	268	..	4	30	52		
40	Chapaguri	657.70	68	354	47	71	241	..	..	5	9
41	Dumchi P	854.08	27	119	8	5	97	5	..	..	8
42	Gopal Pur Tea Garden P	1,492.71	695	2,971	368	1	9	1	..	2,710	141		
43	Hosainabad T.G., P	639.03	264	1,203	32	..	..	..	..	1,083	40
44	Dalmore T.G., P	5,660.05	839	4,235	397	2	..	..	..	3,903	152
45	Birpara T.G., P	6,443.04	1,084	4,783	541	6	..	6	..	4,016	290		
46	Nang Dala T.G., P	2,306.67	967	2,369	305	..	..	..	..	2,270	75
47	Dim Dima T.G.	3,010.55	597	2,905	296	51	..	..	..	2,650	134
48	Dangapara	348.85	35	181	1	51	107	1	5	..	17		
49	Rarim Pur T.G., P	903.14	111	437	31	1	..	..	..	413	16
50	Sarugaon 2P	593.53	37	208	1	47	138	2	17	4	..		
51	Sisba Jurnha	1,050.02	164	838	31	89	598	24	29	67	24		
Total (Entirely Rural)		146.9 sq. miles	14,327	59,468	8,714	3,081	8,385	170	384	41,982	1,985	1,090	2,409

9 P. S. Falakata

52	Jogijhora Barabak	1,284.73	30	958	139	297	589	3	9	17	26	..	17
53	Narsingpur	1,546.41	137	786	56	39	732	..	8	..	..	..	7
54	Mechua Dura Bala Bathani	1,293.76	157	813	128	214	547	18	1	18	..	..	15
55	Ethelbari Tea Garden P	794.51	267	964	131	..	..	..	..	895	6	4	59
56	Deomali	1,641.60	280	1,318	159	302	874	56	..	24	2	..	60
57	Dhanirampur	1,854.48	304	1,400	132	540	751	94	..	..	..	..	15
58	Ghatpar Sarugram P	1,028.61	149	606	107	241	340	..	..	6	3	..	16
59	Khagenhat. P	1,540.33	320	1,511	94	528	832	55	..	43	9	..	44

Note —T. G. stands for Tea Garden.

J. L. No	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	II	III	IV	VI	VII	VIII		
1	2	3	4					10	11	12	13	14	
9 P. S. Falakata—concl'd.													
60	Sarugaon Tea Garden	1,798.72	395	1,602	132				1,538			50	
61	Malnagaon	1,210.03	200	1,150	42	205	844	28	14			54	
62	Susha Bari Sarugaon	860.46	115	609	53	231	370	..	8			..	
63	Cheng Maritari	1,138.11	127	669	42	240	399	5	13			12	
64	Dal Money Tea Garden	719.36				Uninhabited							
65	Dalgaon Forest	1,471.00	25	110	48				99			4	
66	Tasati Tea Garden P	1,496.69	816	2,407	129			..	2,250	3	18	129	
67	Dalgaon Tea Garden P	152.19	772	3,178	186	12		..	2,905	117	67	77	
68	Dalgaon 2P	1,639.13	164	899	76	253	605	11	9	1		20	
69	Bengkandi	1,133.32	126	656	46	222	405		10	1		18	
70	Alinagar	1,156.81	224	1,100	34	425	532	18	24			101	
71	Jateswar P	1,059.60	315	1,365	162	351	389	27	91	315		185	
72	Hedaitnagar	1,506.00	261	1,186	75	458	678	14		12		2	
73	Dhula Gaon	1,193.97	139	661	110	173	459	11		10		8	
74	Karaitari P	790.62	94	564	33	152	402					10	
75	Uttar Deogaon	1,147.33	140	744	47	176	501					67	
76	Purba Deogaon	832.07	79	442	57	147	274					18	
77	Madhya Deogaon	608.18	82	483	45	124	323		18			14	
78	Paschim Deogaon P	568.49	93	530	57	197	308		1			20	
79	Dakshin Deogaon	939.82	122	647	62	163	446					36	
80	Jhar Beltali P	1,021.01	116	545	66	176	357	8	3			1	
81	Purba Jhar Beltali	1,005.93	132	686	65	163	472	9		4		32	
82	Beltali Bhandari P	819.02	171	785	33	175	490	12	24	40		36	
83	Harnathipur	1,309.14	106	557	48	186	347					24	
84	Baganbari P	854.54	19	98	50	..	96					2	
85	Kashrarkot, P	676.17	89	470	72	342	105	9		1	7	6	
86	Dalimpur	1,422.64	206	950	52	437	393	10		24	10	76	
87	Nabanagar	1,581.86	102	442	70	184	226			9	5	18	
88	Kathalbari P	1,206.28	221	992	95	535	435			1		20	
89	Guabarnagar P	919.56	107	517	30	171	316			19		11	
90	Pramodenagar	1,379.21	215	915	85	427	459	21		4		4	
91	Gokulnagar	1,147.52	151	764	45	340	327	14		33		48	
92	Balasundar	1,151.54	260	831	58	317	443	53		3	3	10	
93	Joy Chandpur	1,014.51	483	618	80	230	326			13	13	36	
94	Bhutnirghat P	858.68	102	579	63	197	334	29		7	..	10	
95	Baradoba	618.69	232	486	53	394	71	..		7	..	14	
96	Falakata 2P, D	1,218.93	206	3,011	715	289	193	8		327	1,192	934	
97	Parangarpar	1,409.51	134	709	247	272	229	4		39	43	114	
98	Chuakhola	1,536.80	196	852	161	336	497	7			12	..	
99	Jogendrapur	1,336.14	103	456	66	210	231	1				14	
100	Satpukuria P	1,261.97	58	357	19	128	204			11		14	
101	Talukertari	1,718.91	175	779	79	305	425			3		41	
102	Chhota Salkumar P	1,048.88	124	616	56	230	354			16		16	
103	Paschim Salkumar	941.37	114	634	30	225	392	6				9	
104	Uma Charanpur	1,341.70	179	857	85	397	442	4				9	
105	Khau Chandpara	1,609.07	149	875	129	257	575	25				17	
106	Badaitari	974.63	126	622	97	128	477					13	
107	Sibnathipur	1,424.93	184	909	36	75	807					25	
108	Lochman Dabri P	1,259.42	128	591	76	314	229	5		11		29	
109	Mairadanga	1,859.59	179	887	69	212	649	14		5		7	
110	Kunjanagar	1,538.86	115	570	37	169	383	4		5		9	
111	Dakshin Parangarpar P	786.24	145	693	35	243	398	18		16	2	16	
112	Kadambini Tea Garden P	1,784.20	461	2,080	141			1,822	13	103	142
113	Banah Dharpur	1,077.55	45	231	21	165	61			4	1
114	Raichenga P	1,948.03	280	1,438	265	473	497	14		112	154	..	188
115	Kalipur	1,637.83	192	940	160	463	408	7		5	11	3	43

10 P. S. Kalchini

1	Uttar Barajhar Forest	2,1651.00	5	18	18
2	Joygaon	834.68	121	530	124	4	281	29	135	35	2	42
3	Mechiabasti	982.11	86	470	5	38	324	5	91	..	..	12
4	Torna Tea Garden	3,329.48	593	2,069	356	..	11	..	1,842	120	17	79
5	Chhota Joygaon	99.36	7	46	..	..	46	..				
6	Gaburbasra Forest	11,846.40	71	523	3	..	..	..	515			

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/ Ward in acres	No. of occupied houses	Popu- lation	No. of literates		II	III	IV		VI	VII	VIII	
										10	11	12	13	14
10 P. S. Kalchini—concl'd.														
7	Dalsingpara Tea Garden	4,898.10	1,245	4,722	696	..	..	..	..	4,252	194	65	211	
8	Beech Tea Garden	1,628.62	936	3,151	457	..	..	..	..	2,850	91	37	173	
9	Bharnobari Tea Garden	1,901.76	864	3,028	300	..	..	..	..	2,828	17	40	143	
10	Malangi Tea Garden	1,933.50	990	3,971	711	..	..	..	..	3,072	183	301	415	
11	Satali Tea Garden P	1,330.85	709	2,534	353	6	..	1	..	2,334	34	51	108	
12	Madhu Tea Garden P	1,099.86	624	2,214	344	..	..	..	..	2,069	21	45	79	
13	Uttar Satali	1,387.65	50	193	28	23	103	..	..	6	9	6	46	
14	Nilpara Forest	394.00	13	64	23	..	10	..	..	48	..	3	3	
15	Sawdamini Tea Garden	1,311.31	422	1,464	270	..	..	..	..	1,340	10	10	104	
16	Parmalangi	622.30	57	244	64	37	93	3	..	18	..	45	48	
17	Madhya Satali	1,366.10	141	695	87	285	370	11	..	4	..	..	25	
18	Satali Mondalpara	1,473.48	194	1,233	119	377	828	3	..	..	..	..	25	
19	Purba Satali	1,633.03	210	1,269	48	259	940	4	..	2	..	3	61	
20	Paschim Satali	1,135.92	124	802	162	153	540	..	..	24	26	2	57	
21	Dakshin Satali	1,234.48	155	1,001	54	202	716	22	..	6	4	5	46	
22	Satali Nakadala	1,291.42	124	811	22	285	482	..	..	3	1	1	39	
23	Dakshin Latabari	1,402.08	136	775	55	177	491	38	60	2	..	..	7	
24	Uttar Latabari	1,649.63	213	1,271	262	79	624	10	52	217	211	15	63	
25	Bhat Khawa Tea Garden P	1,991.65	878	2,933	548	..	..	..	..	2,593	94	17	229	
26	Ata Bari Tea Garden P	1,833.49	770	2,581	409	..	..	..	..	2,400	34	39	108	
27	Raja Bhat Tea Garden 2P,1D	1,043.09	628	2,242	357	..	..	..	..	2,086	37	52	67	
28	Duma Tea Garden	3,023.85	1,698	4,109	566	..	..	..	..	3,674	74	76	285	
29	Kalchini Tea Garden	5,697.88	3,129	12,191	2,176	4	33	31	3	9,821	1,016	266	1,017	
30	Bhatpara Tea Garden	1,612.47	1,061	4,059	357	3	..	..	..	3,680	59	130	187	
31	Chuapara Tea Garden	4,701.65	745	3,823	452	5	..	..	3	3,458	68	60	229	
32	Radharani Tea Garden P	719.21	203	734	59	..	..	..	..	666	19	10	39	
33	Mech-Para Tea Garden P	1,704.94	952	3,765	307	7	..	1	..	3,499	61	89	108	
34	Chuapara P	583.33	33	388	10	10	275	14	13	24	18	4	30	
35	Bhutri Forest	3,725.00	45	304	104	..	..	..	..	129	..	..	175	
36	Rangamati Tea Garden	3,707.72	1,461	4,532	663	..	..	1	..	4,301	100	19	111	
37	Buxa Hill Forest	25,792.00	227	1,406	471	281	..	33	..	287	50	20	735	
38	Buxa Forest Panbari Khanda	30,202.00	352	1,989	237	..	989	..	..	630	64	23	283	
39	Buxa Forest (Raja Bhat Khawa)	59,149.00	738	3,567	1,022	322	135	219	..	867	381	661	982	
40	Nimtijhora Tea Garden P	1,130.99	485	1,943	311	..	..	..	1	1,810	24	7	101	
41	Dakshin Mendabari	1,432.94	81	489	24	100	352	6	..	..	5	..	26	
42	Nimti Domohani P	1,528.01	83	539	57	12	438	2	61	4	..	8	14	
43	Uttar Mendabari	1,381.86	156	917	83	215	622	20	8	6	2	..	44	
Total (Entirely Rural)		344.4 Sq miles	21,815	85,609	12,756	2,884	8,703	453	203	61,611	3,062	2,129	6,564	

1 P. S. Alipur Duars

44	Dakshin Barajhar Forest	24,448.00	8	9	2	..	..	..	..	9	..	..	11	
45	Jaldapara P	1,108.86	53	235	35	160	55	9	..	..	..	..	..
46	Torsa Forest	6,829.00	1	5	..	..	..	..	..	5	..	..	..
47	Pradhanpara	1,063.49	124	692	94	208	470	13	..	..	..	..	..
48	Nutanpara	1,448.52	155	873	30	298	568	1	..	..	..	..	6	
49	Sidhabari	1,545.35	149	834	68	298	525	..	..	..	..	..	11	
50	Munsipara	1,864.66	299	1,588	143	536	956	5	..	30	5	..	56	
51	Salkumarhat 2P	1,373.56	217	1,152	247	389	633	4	..	38	3	..	85	
52	Kalabaria	1,181.13	161	865	85	452	396	..	..	1	..	..	14	
53	Salkumar Forest	1,243.00	22	166	3	159	..	..	..	7	..	..	..

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No. of literates	II	III	IV	VI	VII	VIII*	
		3			6	8	9	10	11	12	13	14
11	P. S. Alipur Duars contd.											
54	Suriparo	970.98	147	712	43	316	391					5
55	Sirubari P	697.35	104	471	48	382	69					3
56	Jogendranagar	1,352.87	147	670	67	123	490	10	13			19
57	Mejbil	1,363.48	114	592	31	164	413		27			15
58	Paschim Kathalbari	2,129.17	303	1,402	51	283	1,034	11	52			22
59	Purba Kathalbari	1,718.19	318	1,734	170	343	617	84	57	411	55	167
60	Silbarihat 2P, D	1,507.88	163	763	4	214	484		5	8		52
61	Patlakhawa P	1,588.77	212	1,048	20	388	623		15			19
62	Paschim Simlabari	848.39	102	607	33	334	244		19			10
63	Uttar Simlabari	717.20	56	303	12	198	105					
64	Purba Simlabari	779.39	106	545	64	270	253		15			5
65	Dakshin Chakroakhet	1,615.47	214	1,111	147	781	303		2			17
66	Kumarpara	1,152.36	145	776	107	371	388		10			5
67	Mathura Tea Garden	2,082.31	1,277	4,862	603	27	23		4,492	93		226
68	Nathoarta	1,399.12	104	809	74	309	361			13	125	1
69	Uttar Chakroakhet	1,124.72	86	522	88	287	225					10
70	Madhya Patkrapara	642.39	130	613	66	175	330	3	15	70		20
71	Uttar Patkrapara	1,311.56	168	946	123	252	632	32	9	15		4
72	Patkrapara Tea Garden 2P	1,231.49	355	1,440	13			2	1,419	1		18
73	Dakshin Patkrapara	1,703.57	125	694	70	283	394	8		1		
74	Paschim Salbari	797.56	94	478	41	172	296	4				4
75	Dakshin Kamsingram	718.27	92	420	56	193	203					17
76	Uttar Kamsingram	877.60	162	695	102	290	380		7			18
77	Uttar Sonapur	1,845.37	237	1,046	93	388	624	12	1			18
78	Dakshin Sonapur	893.16	169	776	100	107	662					
79	Pachkalguri	762.73	118	512	90	257	211		28			16
80	Tapsukhata P	1,236.13	164	777	110	361	327		15	6		42
81	Pakuritala	1,868.87	289	1,519	250	818	486	28	17	61		109
82	Pararpar P	1,309.87	166	932	78	351	501	4		1		72
83	Birpara	1,513.43	208	908	31	279	526			19	10	43
84	Chapatuli	1,343.09	139	664	126	269	379		1	1		14
85	Foskadanga	1,569.16	135	813	101	463	332					18
86	Satkodah	1,428.12	171	1,019	114	366	543		25			85
87	Banchukamari P	1,190.60	160	735	111	63	645		4	3		20
88	Ghagra P	1,241.96	165	926	48	516	334		13	9		48
89	Bairiguri	1,203.79	130	670	83	247	412		1			10
90	Paschim Majherdabri Tea Garden	310.96	171	1,024	146				920	24	28	50
91	Paschim Jitpur	1,641.46	256	1,321	146	266	689		104	171		100
92	Chechakhata P	714.42	35	323	74	41	217		5	28		7
93	Purba Majherdabri Tea Garden	736.90	102	381	33				375	2		4
94	Uttar Panialguri	1,286.72	166	843		223	562	19		8		29
95	Dakshin Panialguri	1,395.30	162	882	134	272	518		39	6		47
96	Uttar Majherdabri	913.10	125	613	149	271	316		4			21
97	Dakshin Majherdabri	659.68	128	604	137	339	218					41
98	Bholardabri P	1,190.03	479	2,185	145	277	812	95	142	293	21	534
99	Alipur Duar	1,065.15				Included in Urban Area						
100	Damanpur 2P	1,028.19	64	282	6	85	179					18
101	Sobaganj P	376.77	45	183	2	65	110					8
102	Chengpara P	971.62	153	710	182	281	310	24	44			26
103	Chalnipak P	1,432.68	150	716	75	345	358					12
104	Chandijhar P	1,372.72	175	859	42	652	155	52				
105	Chaprarpar P	1,395.36	182	883	50	731	89	6	12	28		17
106	Bhelukdabri P	1,042.05	137	683	61	250	416	8				6
107	Salsalabari P	1,688.35	308	1,571	378	892	508	4	1	115		51
108	Khatpara P	375.21	51	251	34	148	87	4	2	2		8
109	Karipara	259.04										
110	Bindipara P	505.28	108	502	93	384	109		3	1		
111	Karjipara P	1,289.87	167	749	115	434	240		22	20	6	27
112	Paschim Barachowki	1,662.09	145	687	87	391	280					8
113	Purba Barachowki	762.11	128	614	31	387	212					15
114	Boragari P	1,147.14	139	649	82	377	240		18		6	8
115	Bhatibari D, P	1,075.55	189	827	117	495	292		9			31
116	Chulurghat	328.92	85	493	48	202	206		21	36		28
117	Uttar Bhatibari	828.48	169	722	126	269	283		15	57	2	96
118	Saudpara P	913.72	156	680	44	330	242		36	16	12	44
119	Tatpara	1,336.07	195	1,000	124	970			2			28
120	Jasodanga	1,040.66	170	841	83	359	418	23				41

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No. of occupied houses	Population	No of literates	I	II	III	IV	V	VI	VII	VIII		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
11 P. S. Alipur Duar. — contd															
121	Dakshin Sibkata	1,041.48	51	298	29	90	198	.	2	7	.	.	1		
122	Kayakhata P	796.79	178	818	200	83	615	60	.	37	6	.	17		
123	Pytmani	755.79	138	568	90	252	244	17	11	17	6	.	21		
124	Bhasadabri	801.48	89	475	45	247	218	8	.	.	.	.	2
125	Dakshin Dhalkar	830.25	41	278	14	97	172	.	.	.	1	.	8		
126	Uttar Dhalkar	1,007.58	147	817	33	308	486	.	.	.	.	.	23
127	Madhya Sibkata	166.67	53	287	11	47	240	.	.	.	.	.	.
128	Srinathpur Tea Garden	798.25	157	625	31	.	72	.	551	.	1	1	.		
129	Uttar Sibkata	1,268.78	112	648	9	1,777	469	.	.	.	.	.	2
130	Dangi	825.70	75	412	3	183	251	.	.	.	.	.	8
131	Sumlabari P	1,039.53	78	430	12	159	255	7	.	.	.	.	9
132	Panbari	696.40	67	324	16	139	160	.	.	3	10	.	12		
133	Damsabad	1,386.21	126	627	25	121	495	.	.	5	.	.	6		
134	Nurpur	1,583.22	128	604	89	38	518	1	11	2	2	.	11		
135	Turturi	1,277.73	125	652	21	113	199	3	.	.	12	.	25		
136	Dhadaphora	1,357.80	106	551	27	170	372	.	.	9	.	.	.		
137	Loknathpur	1,050.34	149	703	41	162	476	6	.	.	21	.	41		
138	No name mentioned in the Jurisdiction List of Alipur Duar P. S. Not noted														
139	Uttar Rampur	817.92	51	305	18	56	228	2	.	4	.	.	15		
140	Dhaolajhora Tea Garden P	11,505.76	444	1,534	149	.	3	1	.	1,361	29	17	130		
141	Kolunur Tea Garden P	1,884.77	458	1,832	159	4	38	.	.	1,716	.	9	35		
142	Garokhuta	855.89	68	345	18	154	108	51	.	10	.	.	29		
143	Sambalpur	496.17	50	223	7	104	24	.	.	.	.	.	95
144	Bamdabri P	1,383.57	157	741	12	357	2	.	1	8	.	.	349		
145	Purbaptipur	275.94	31	170	17	120	.	.	.	.	.	.	50
146	Joypur	967.42	37	195	30	139	96	4	.	.	.	.	26
147	Bamagaon P	1,165.14	180	798	83	410	37	237	.	3	.	.	91		
148	Pukhuria P	1,706.09	118	586	58	359	154	53	.	7	.	.	13		
149	Kadampur	710.77	70	318	16	195	77	18	.	25	.	.	3		
150	Patotola	687.78	130	540	115	181	24	3	.	238	99	.	69		
151	Samuktala	895.56	215	961	189	289	4	62	.	55	128	8	115		
152	Mahakalguri P	575.08	36	300	136	145	79	.	.	36	.	.	40		
153	Dakshin Mahakalguri	820.95	222	1,124	127	281	702	32	1	42	28	2	36		
154	Uttar Chakurbas	50.73	.	.	.	Uninhabited Mouza									
155	Bata Chakurbas	1,125.53	75	400	30	79	296	.	.	4	2	.	19		
156	Chhoti Chakurbas	596.80	35	166	19	71	84	.	.	1	.	.	10		
157	Chhipra	801.66	73	679	2	110	241	.	.	13	.	.	15		
158	Bakla	864.07	148	755	234	274	436	.	2	2	10	2	31		
159	Uttar Patokata	1,529.64	181	918	123	160	404	5	5	14	.	3	27		
160	Madhya Parokata P	976.48	106	572	73	268	215	5	.	4	.	.	12		
161	Dakshin Patokata P	1,476.07	189	976	51	193	413	1	.	8	3	.	10		
162	Purba Khalsamari P	910.88	96	526	69	389	219	.	.	4	4	2	17		
163	Paschim Khalsamari	948.87	90	446	68	279	106	.	.	1	.	.	7		
164	Purba Chepam	1,546.60	253	1,343	81	596	632	.	.	2	8	1	104		
165	Chepam S, P	1,362.03	116	577	68	240	328	.	.	.	1	.	8		
166	Paschim Chepam	1,568.44	199	972	33	373	572	.	.	3	6	.	18		
167	Taleswarguri 2P	748.60	93	483	46	415	56	1	6	.	5	.	.		
168	Uttar Mandkhana	1,381.66	190	846	109	742	100	2	2	.	.	.	.
169	Dakshin Mapokkhana	869.37	140	593	103	184	275	.	.	16	35	11	42		
170	Thanupara P	979.24	113	521	70	274	221	.	.	12	6	.	8		
171	Konarajan P	1,282.35	185	890	113	328	507	1	.	1	8	.	45		
172	Paschim Chikliguri	845.85	76	337	79	140	196	.	.	.	.	.	1
173	Uttar Chikliguri	877.71	35	257	56	215	39	.	.	.	.	.	3
174	Purba Chikliguri P	1,368.25	172	897	23	576	273	.	.	23	.	.	25		
175	Brayerkuthi P	779.21	71	320	53	143	158	.	.	.	.	.	19
Alipur Duar Non-Municipal Town															
2S, 5P, 2H, PO				4,738	24,886	8,802	242	342	55	183	4,675	9,035	3,822	6,532	
Total				5,73	4,738	24,886	8,802	242	342	55	183	4,675	9,035	3,822	6,532
sq miles															
Rural				19,414	94,152	10,145	34,590	38,966	1,106	129	12,436	2,227	356	4,342	
Urban				4,738	24,886	8,802	242	342	55	183	4,675	9,035	3,822	6,532	
G. Total				299.7	24,152	119,038	18,847	34,832	39,308	1,161	312	17,111	11,262	4,178	10,874
sq miles															

J. L. No.	Name of Village or Town/Ward	Area of Village or Town/Ward in acres	No of occupied houses	Population	No of literates	I	II	III	IV	V	VI	VII	VIII
1	2	3	4	5	6	7	8	9	10	11	12	13	14
12 P. S. Kumargram													
176	Dakshin Kamakhya-guri	1,137.51	132	650	2	384	246	1	..	8	..	..	11
177	Madhya Kamakhya-guri P	1,129.85	159	712	110	388	303	..	..	14	..	..	7
178	Uttar Kamakhya-guri	866.85	283	1,358	386	240	164	83	..	92	532	14	233
179	Dakshin Narathali	1,130.37	175	966	130	359	317	4	..	43	65	52	66
180	Telpara P	1,347.32	136	743	31	411	262	9	..	1	3	44	13
181	Paschim Chackcharka	656.09	67	429	75	248	149	13	..	..	3	4	12
182	Purba Chackcharka	1,968.20	128	667	129	261	353	16	..	19	2	..	16
183	Dakshin Rampur	862.00	106	486	67	262	181	9	..	5	3	..	22
184	Laskarpara	895.50	141	688	136	246	290	1	..	42	43	8	58
185	Barabusa P	1,780.21	176	893	91	395	461	5	..	15	1	..	16
186	Radhanagar P	723.71	54	292	9	135	145	1	7	3	..	..	1
187	Ghakesapara	1,126.09	117	749	207	332	358	..	3	20	5	9	22
188	Bara Dabali	1,310.74	111	579	80	269	273	7	..	1	3	..	26
189	Chibota Dabali	1,371.02	141	815	71	434	351	..	..	3	..	..	27
190	Gachhmar	1,130.71	105	629	146	316	8	285	..	..	..	..	20
191	Purba Narathali	1,147.91	109	613	101	362	232	..	5	..	1	..	13
192	Paschim Narathali P	1,432.18	192	1,099	131	446	556	25	13	1	2	19	37
193	Madhya Narathali	1,474.35	181	926	160	441	454	1	..	12	..	..	18
194	Narathali 2P	1,567.57	153	975	152	469	432	22	..	..	..	24	28
195	Uttar Narathali	968.89	92	572	25	326	224	..	..	21	..	..	2
196	Marakhata	1,241.18	122	721	40	477	225	..	..	3	..	..	16
197	Hemaguri P	1,140.48	87	427	19	182	206	..	1	7	7	..	24
198	Dakshin Chengmari	1,580.17	178	960	138	473	424	5	17	5	7	8	21
199	Chengmari P	908.29	104	552	139	200	300	..	..	19	4	..	29
200	Paschim Chengmari	1,409.47	126	707	54	392	295	5	..	5	1	..	6
201	Lalchandpore	546.01	37	212	7	138	68	..	..	3	..	..	3
202	Paglarhat P	562.86	48	239	12	40	204	1	..	..	..	..	4
203	Kumargram P, II	1,358.31	267	1,153	380	735	726	24	73	60	115	..	220
204	Dhantali	888.32	42	243	5	118	103	..	..	15	6	1	..
205	Jandhpore	1,252.74	86	461	28	15	408	3	17	..	..	..	21
206	Amarpore P	979.44	91	568	59	224	305	12	..	3	..	..	24
207	Rydlak Bore A P	25,027.00	53	313	25	1	218	..	..	21	..	3	70
208	Kartikarydak Tea Garden	867.20	1,230	4,881	525	18	20	..	..	4,617	58	36	132
209	Turturi Tea Garden	1,509.75	203	787	21	1	..	..	..	774	5	2	5
210	Rahmabad Tea Garden P	1,568.21	442	1,528	141	1	..	..	..	1,464	15	6	42
211	Chumaphora Tea Garden	825.80	..	..	..	..	..	..	..	..	..	..	..
212	Goodluck Tea Garden	110.57	..	..	..	..	..	..	..	..	..	..	..
213	Chumaphora Tea Garden P	1,933.46	297	1,115	79	1	..	..	..	1,042	8	5	59
214	Phaskhawa Tea Garden	1,316.91	198	719	102	..	..	..	..	679	30	4	6
215	Sachaphu Forset	11,954.00	38	121	14	..	..	5	98	..	2	7	9
216	Jaunti Tea Garden I P	3,971.08	335	1,417	198	..	..	..	..	1,270	12	56	79
217	Jaunti Tea Garden II	5,88.91	237	921	142	..	..	..	..	804	54	33	30
218	Turturkhanda	1,298.53	49	213	7	14	179	..	..	1	..	..	19
219	Dhunpara Forest	7,447.00	81	482	28	8	..	..	..	438	..	..	36
220	Newlands Tea Garden P	2,853.28	736	2,905	156	15	23	..	..	2,533	47	92	175
221	Kumargram Tea Garden P	2,117.03	694	2,958	429	..	4	..	..	2,688	156	32	84
222	Sankos Tea Garden P	2,280.75	749	3,193	221	20	3	..	7	3,038	67	21	37
223	Pukhangaon	762.86	116	619	77	205	255	7	9	5	80	1	57
224	Uttar Haldhari P	1,206.61	119	795	32	282	460	..	..	37	7	..	9
225	Madhya Haldhari P	1,581.94	143	788	44	258	503	1	..	1	5	..	20
226	Dakshin Haldhari	750.98	53	281	21	138	116	..	..	1	6	..	20
227	Bhalka Forest	9,216.09	77	402	14	..	..	..	..	399	..	..	3
228	Purba Salbari	1,239.07	92	506	26	270	217	..	..	6	..	..	13
229	Bhalka P	1,364.20	128	686	108	182	486	18	..	..	..	..	..
230	Pakriguri	1,006.27	53	305	34	200	100	..	..	5	..	..	..
231	Rampur	729.79	81	337	21	192	144	1	..	..	..	..	..
232	Majherdabri 3P	1,266.84	130	571	54	381	184	4	..	1	..	..	1
233	Paratlakhawa	175.54	..	..	..	..	..	..	..	..	..	..	..
234/37	Santrabari	48.79	4	19	..	1	1	..	..	14	..	..	3
235/37	Chunabhati P	2,502.86	44	227	16	28	4	1	..	28	10	14	142
236/37	Adma	476.13	18	137	1	136	..	..	..	..	..	..	1

Total (Entirely Rural) 194.9 Sq miles 10,300 44,563 5,056 11,568 11,941 551 253 20,306 1,359 479 2,068

